BUSINESS WEEK

WEEK AGO

YEAR AGO

START OF WAR 1939

DeGaulle rattles a skeleton in the United Nations closet.

USINESS
EEK
IDEX

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PAGE 19

There is no Magic Wand

LET'S not fool ourselves—the future of this country is entirely dependent on how much it is willing to produce at a low enough cost to meet world competition. *Your* future depends on exactly the same thing. All the doles, social security promises, soak-the-rich ideas and ham-and-eggs-every-Thursday plans in the world can't change that fact, for the simple reason that there is no place for the money to come from except *production.*

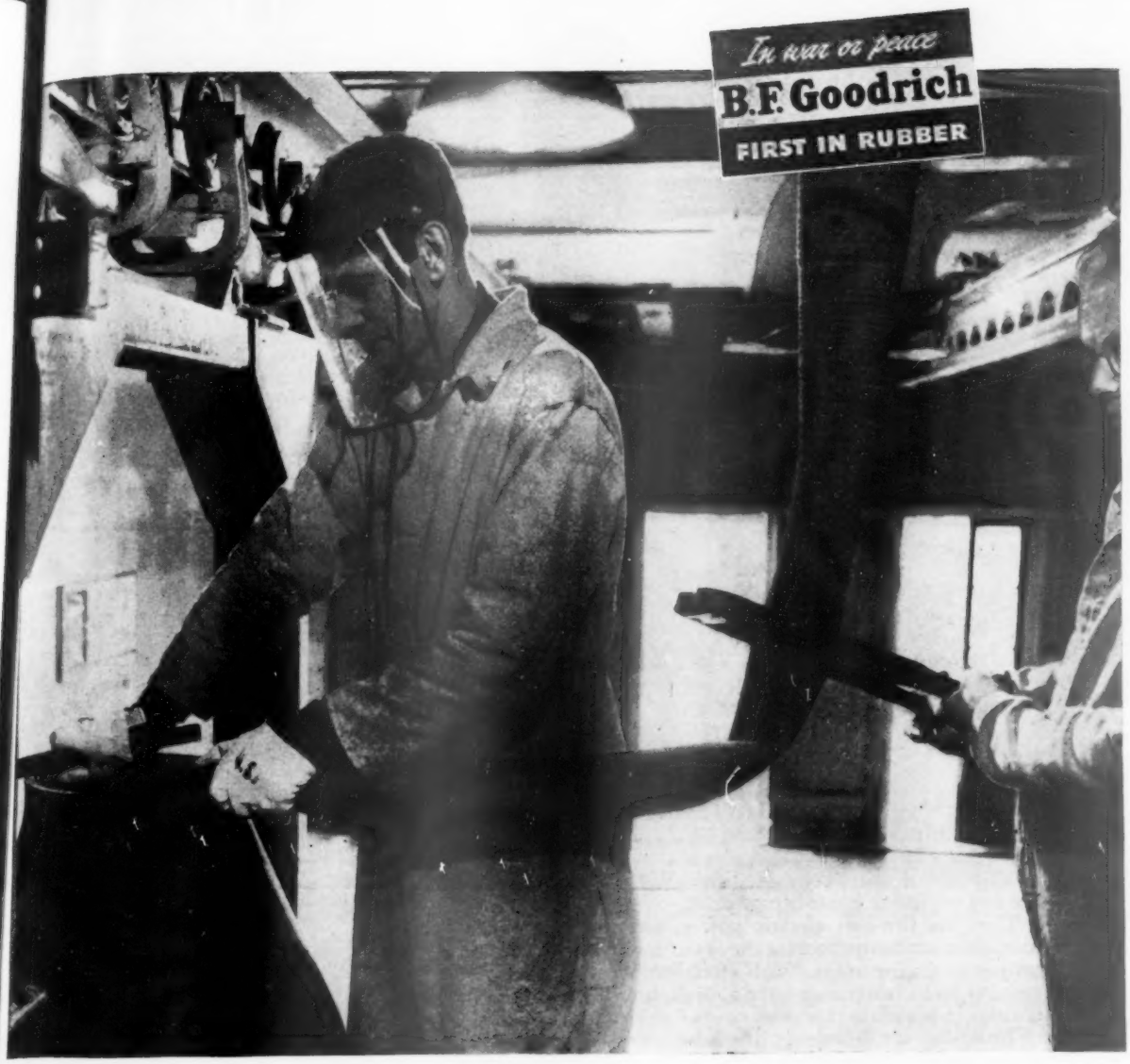
The 30-hour-week cry, and "more money for less work", and all such plans—if they reduce production—are crude and cruel falsehoods. The less you and I produce, the less there is to divide between us—how can you escape that fundamental truth?

That doesn't mean longer and longer hours, harder and harder labor—not at all. It means an honest day's work and taking full advantage of the modern tools that let you produce more and better work. The more you produce *efficiently* i a normal day, the lower the cost of your prod uct. The lower its cost, the more people wh can afford it. The more people who can afford it, the more people who will buy it. The mor people who buy it, the more money you can make and the more secure your job.

That is true and practical social security. We who can produce the machines and you who can use them efficiently are the *only* ones who can make it work.

WARNER & SWASEY
Turret Lathes
Cleveland

YOU CAN TURN IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY



Filling station for quick destruction

A typical example of B. F. Goodrich product development

THEY'RE filling a 2000-pound bomb with hot TNT. To make it easier to handle, TNT is melted in tanks and drained out through a flexible hose that can be moved to the bombs and shells that are being filled.

Fine, except that rubber hose contaminated the TNT. B. F. Goodrich research men, with experience in making 4,000 types of hose, soon had that solved with a new rubber compound.

But hose has metal couplings, metal can make sparks — and one spark could mean the end of the world for the entire bomb-loading plant. So B. F. Goodrich men developed a hose end in which the metal is buried in rubber and no spark is possible.

There was still a problem. Bombs must get an exact charge of TNT, and that seemed to demand faucets with more metal, and spark danger again. Then the B. F. Goodrich hose was made extra flexible so that a "nut-cracker" clamp could be used on it. The second man in the picture is applying that clamp which shuts off all flow the second the man looking down into that witches' cauldron says "Stop!"

This is the hose that has been at work for months in shell-loading plants, helping them turn out more work in less time and with greater safety. It's the result of the continuous research that makes possible the development of new products and the improvement of old ones. *The B. F. Goodrich Company, Industrial Products Division, Akron, O.*

B.F. Goodrich

RUBBER *and* SYNTHETIC *products*

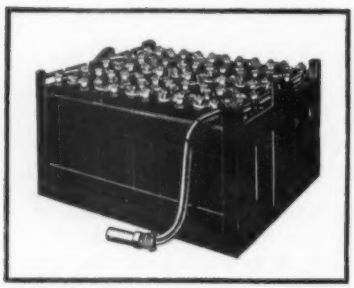
THEY GO ALMOST ANYWHERE

One of the unconventional but useful handling jobs often performed by battery industrial trucks is to push or pull heavy loads between craneways. Articles describing modern methods of material handling appear regularly in our STORAGE BATTERY POWER. Send for sample copy if you do not already receive it.

BECAUSE they are quiet and free from fumes, battery industrial trucks can be used without restriction in virtually any department of the plant. They can even be provided with spark-enclosed construction for operation in locations where fire and explosion hazards may exist.

They use low-cost electric power, and they use it with maximum economy, because they start instantly, yet consume no power during stops. With electric-motor drive for both traction and lifting, they have a minimum of wearing parts; are easy to maintain; are rarely out of service for repairs.

Thus, they are inherently dependable and economical, and this is especially important in the war industries where they are working 24 hours a day. Here they have the additional advantage of operating from one battery while another is on charge; except for the few minutes needed to exchange batteries, they need not stop for servicing of the power unit.



They are extra dependable and extra economical when Edison alkaline batteries are used. With steel cell construction, a solution which is a natural preservative of steel, and a fool-proof principle of operation, they are the longest-lived and most durable of all storage batteries. *Edison Storage Battery Division of Thomas A. Edison, Incorporated, West Orange, N. J.*

Edison
ALKALINE BATTERIES

BUSINESS WEEK

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BUSINESS WEEK • JUNE 24 • NUMBER 773 (with which is combined The Annalist and the Magazine of Business). Published weekly by McGraw-Hill Publishing Company, Inc., James H. McGraw, Founder and Honorary Chairman. PUBLICATION OFFICE 99-129 NORTH BROADWAY, ALBANY 1, N. Y. EDITORIAL AND EXECUTIVE OFFICES, 330 W. 42ND ST., NEW YORK 18, N. Y. James H. McGraw, Jr., President; Howard Ehrlich, Executive Vice-President for Business Operations; John Abbink, Executive Vice-President for Editorial Operations; Curtis W. McGraw, Treasurer; J. A. Gerardi, Secretary. Allow ten days for change of address. About subscriptions address: J. E. Blackburn, Jr., Director of Circulation, Business Week, 330 West 42nd St., New York 18, N. Y.

Subscription rates — United States, Mexico, and Central and South American countries $5.00 a year. Canada $6.00 for a year. Entered as second class matter December 4, 1936 at the Post Office at Albany, N. Y., under the Act of March 3, 1879. Return postage guaranteed. Printed in U. S. A.

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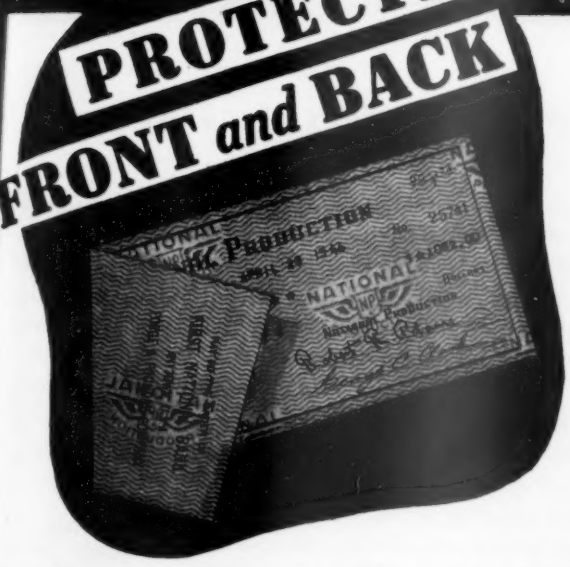
★ *Maintain Allied Air Superiority — Keep Buying War Bonds* ★

PROTECTION FRONT and BACK



When Uncle Sam's Flying Fortresses start off on an egg-laying mission over enemy territory, they "come through", time and again, against terrific opposition. » » This world-famous Bomber has what it takes in fire-power and armament. It is protected against enemy attack *both front and back*—for it mounts deadly machine guns in its nose and its tail. » » Your Banker will tell you that La Monte Safety Paper is SAFE because it protects checks, *front and back*. Both sides of the sheet are *equally effective* in preventing alteration and counterfeiting. That's why when you specify La Monte Safety Paper you have the satisfaction of knowing that both the face of your check and the endorsements are *fully protected*.

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We supply many banks and business organizations with their own INDIVIDUALLY IDENTIFIED Safety Paper. The issuing organization's Trade-Mark is IN the paper itself and appears on both the front and back of the check. Such INDIVIDUALIZED paper adds to the prestige of your checks —saves sorting time—prevents errors in banks and clearing houses.

LA MONTE *Safety* PAPER

GEORGE LA MONTE & SON. NUTLEY, NEW JERSEY

1871

The wavy lines are a La Monte trade-mark

OFF. U. S. NAVY PHOTO

What's the Temperature of a Task Force?

Topside a carrier may be simmering in the blazing heat of a tropical sun. In the magazine it is dim and cool . . . just the prescribed temperature for storing ammunition. Close to the flight deck in the "ready room" aviators relax in temperatures approaching the cold stratosphere to which their planes will take them. In the X-ray room delicate machines operate more efficiently because the temperature is right.

Almost everywhere in our giant task forces, the science of cooling is on the job . . . helping to save lives . . . preserving food . . . building morale for hundreds of thousands of fighting men. A battleship may be equipped with as many as ten separate York machines...and there are a *dozen* battle wagons in this force. About the same number of York units are required on a flattop . . . and *nine* carriers lie at anchor here. Each of the scores of cruisers, destroyers and supply ships has its complement of refrigeration equipment. Even landing craft have their small self-contained refrigeration units. The total amount of air conditioning and refrigeration involved in a task force of this size staggers the imagination.

On ship and on shore York-created equipment is serving with our Armed Forces. Production facilities continue to meet ever increasing naval and military demands. In many cases requirements have called for new and superior techniques. Wartime developments will be reflected in materially improved air conditioning and refrigeration for a peacetime world.

York Corporation, York, Pennsylvania.

ARMY (E) NAVY
york
refrigeration
air conditioning

YORK REFRIGERATION AND AIR CONDITIONING

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

WASHINGTON BULLETIN

WMC's Production Job

Paul V. McNutt, War Manpower Commission chairman, turned up this week as unhappy possessor of veto power over expansion of civilian output.

This is the upshot of the new program announced by WPB Chairman Donald Nelson to pave the way for a smooth transition to peacetime production. Under the procedure Nelson is setting up, blanket restrictions on materials will be relaxed where possible.

WPB regional offices then will consult with WMC to determine whether particular manufacturers may resume production of items on which the general ban has been lifted.

More for Civilians?

Success of McNutt's efforts will hang largely on the labor priority referral program instituted by WMC to become effective July 1 (BW–Jun.17'44, p18). Channeling the distribution of labor through U. S. Employment Service offices is expected to reveal when and where there are manpower surpluses that may be utilized in production of civilian goods with assurance that no interference with war production will result.

WPB Matches Procedures

Nelson is modifying WPB procedures to dovetail with the new country-wide manpower control. This forces WMC to bear the brunt of responsibility for decisions on civilian production. At the same time, it gives WPB operations a high degree of decentralization, something that officials have been trying to achieve for months.

To Ease the Change-Over

Along with his general statement on reconversion policy, Nelson announced three immediate steps that WPB is taking to help industry prepare for large-scale shifts to civilian production:

(1) An order is in the works authorizing any manufacturer to use materials and components to make a single working model of products intended for postwar production.

(2) Limitation orders on the use of aluminum and magnesium will be repealed and a flexible system of plant-by-plant control substituted. The new procedures probably will be even more liberal than an earlier plan to permit use of aluminum whenever manufacturers could prove it would not interfere with war production.

(3) Manufacturers will be allowed to purchase machinery, tools, and dies for civilian production. When possible, they are to buy from surpluses listed with WPB and Defense Plant Corp., but if they can't get what they need in this way, they will be able to place orders subject to WPB approval.

Competition Ignored

Nelson also gave formal—and emphatic—expression to WPB's policy of authorizing civilian production wherever possible, without trying to restore prewar competitive conditions (BW–Mar.4'44,p15). Under this rule, manufacturers with idle capacity in easy labor areas will be able to get going on civilian work even though competitors still are tied up on war orders.

The same thing goes for companies that want to get into new fields or add new lines to their production.

What's to Be Made First

As a supplement to Nelson's three-point reconversion program, WPB has given its approval to a list of more than 200 "essential" civilian items (page 18). As restrictions are relaxed and materials are made available for increased or resumed civilian production, these goods will get preferential consideration.

The list is divided into three categories, graded down in terms of the tightness of supply. As manufacturers are cut off from war production, they will be encouraged first to make the items in Group I—if they have the facilities, and if materials (particularly critical components) are available; then those in Group II; then in Group III.

If a manufacturer can show that he cannot make any of the items on WPB's list, he will be permitted to go ahead and make anything he can, essential or not, as long as this does not interfere with war production (BW–Jun.10'44, p5). But as long as there is not enough to go around, the essential items will get first call on materials, labor, and facilities.

WPB's essential list is not new. It is a quick adaptation of the "dream sheet" over which the Office of Civilian Requirements' Durable Goods & Products Division has labored for more than six months (BW–Dec.25'43,p22).

•

Price Control Extension

Until early this week the odds were that Congress would be forced, either with or without the prod of a presidential veto, into a simple two-to-six months' extension of the present price control act (BW–Jun.17'44,p15). Now they are better than even that the President will sign the compromise bill passed by Congress.

This reversal has resulted from the Administration's unexpected willingness to compromise after a loaded bill reached the House-Senate conference committee.

Wielding the threat of the Bankhead cotton amendment, Congress persuaded OPA and Roosevelt's deputies, James F. Byrnes and Fred M. Vinson, to accept at least a watered version of the Pace amendment in its stead.

This compromise will force OPA to set cotton textile ceilings high enough so that, item by item, processors will be able to pay farmers parity for raw cotton. This may damage OPA's efforts to hold the line on many low-priced textiles, but the price agency's economists are busy figuring out how they can compensate for this by slashing ceilings on high-priced cotton goods, and possibly also on rayon.

•

Job Shifts Irk Politicos

Politics is interfering, here and there, with the movement of men to jobs where they are needed—the object of the War Manpower Commission's priority referral system (BW–Jun.17'44, p18). With the elections coming on, it gripes congressmen to see voters moving out of their districts.

Local pride also is getting up on its hind legs. Workers are assured that jobs will be found for them if they stay where they are.

Union regulations seem, on the whole, to help rather than to hinder transfer of workers. WMC's experience is that the unions can get men to move quicker than the government can. Unions balk at changes in their contracts, because they don't like to give up ground gained, but, where this may help matters, they wink at violations.

•

New Ward Case Appeal

The decision of Judge T. Alan Goldsborough in the District of Columbia federal district court to hear Montgomery Ward & Co.'s injunction suit against National War Labor Board was not the full-scale defeat for the government that it at first appeared.

Judge Goldsborough's action merely forced the Justice Dept. to take another

COMFORT COOLING FOR MODEST HOMES

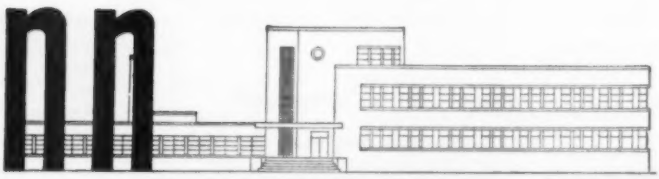
...Is In The Post-War Picture

A pre-war luxury, largely for public buildings...an important "production tool" in war-time plants...air conditioning promises a broadly expanded usefulness when the emergency restrictions of war are lifted. Summer-time control of indoor temperatures in homes of moderate cost *is just one of many new applications which will then become available.*

Industrial use of air conditioning is certain to be greatly increased. Under the stress of war, controlled cold has dramatically proved its value in speeding production, protecting quality, and achieving the microscopic tolerances required in present day precision manufacture.

To manufacturers of air conditioning equipment *Penn offers engineering skill, seasoned by long experience in designing automatic controls for this field,* and the most modern facilities for their production. We invite your inquiry now, without obligation, about automatic controls for present or post-war products. *Penn Electric Switch Co., Goshen, Indiana.*

PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

ppeal to the Circuit Court of Appeals, hich now will be forced to rule on the ourt reviewability of NWLB orders af- cting the mail-order house.

Judge Goldsborough found that a revious circuit court decision, which eld that NWLB orders were not sub- ct to court review on their merits, did ot apply to the Ward case because of Ward's charges that the government cted in an arbitrary and unfair manner.

•

Army Likes Pricing Policy

Several top procurement officials pre- ict that the War Dept. will not ask President Roosevelt to use his authority o extend renegotiation of contracts eyond the Jan. 1, 1945, cutoff date.

The Army is fairly well satisfied with he results of the close-pricing policy it adopted when the renegotiation law was overhauled early this year (BW—Jan.29 '44,p5). It also relies on its repricing powers which were separated from renegotiation at that time. Repricing of undelivered goods—as distinct from renegotiation of prices on completed work —is not subject to the cutoff date.

Some contractors, after seeing how the new policy works, have decided that they liked the old system better.

Termination Audits Limited

Administration leaders finally blasted the contract termination bill through the House this week, settling the last major question over procedure to be followed in settling canceled orders.

In the showdown, the House at last agreed to limit the authority of the Comptroller General to an audit to detect fraud. This means that all settlements negotiated in good faith will be final without an audit by the General Accounting Office.

Provisions of the House bill are substantially the same as those of the bill already approved by the Senate. Differences were compromised by a conference committee.

•

ICC Speeds Up Freight Ruling

With the state of Georgia already petitioning the U. S. Supreme Court to equalize freight rates (page 41), the Interstate Commerce Commission is stepping on the gas to wind up its hearings on long-standing charges of rate discrimination.

The South and West are likely to win some rate concessions from ICC, if only to forestall direct congressional action, but establishment of full rate parity with eastern "official" territory is doubtful.

Questions put by the commission's individual members in the recent argument of the case are not necessarily

The Republican Choice at Chicago

The Republican national convention, meeting in Chicago next week, seems pretty certain whom it wants for its presidential nominee and pretty uncertain what it wants him to stand for.

One obstacle to making up its mind is that many G.O.P. politicians tend to take the fatalistic attitude that all their candidate has to do is to stand against the administration.

• **That "Anybody" Idea**—The trend has been Republican, in state and congressional elections, for four years now. Chairman Harrison Spangler and his aides contend publicly that anybody the convention nominates will win the White House this fall (though political observers doubt that that kind of confidence would have favored Dewey among the "anybodies").

However, as the campaign approaches, it seems less likely that the "trend" can be relied on, more certain that major policy decisions will have to be made at the convention or by its candidate.

• **The Old Standby**—Heretofore, the Republicans' most effective issue in congressional contests, which have already brought them to near-control of the House, has been, frankly and simply: Too much Roosevelt.

If the politicians get their way with the idea that, this fall, the G.O.P. can ride in on a trend and a prayer, the only real issue will again be: Too much Roosevelt.

• **Issues for Chicago**—But this issue failed to win them the presidency in 1936 and 1940. If the convention or the candidate feels that it cannot be relied on this time either, here are some prime party issues that confront the pickers of better campaign issues:

(1) Is the Republican Party going to concede the labor vote to the Administration? Is it going to concede that union leaders can deliver the labor vote (through such organizations as the C.I.O.'s Political Action Committee), or it is going after the labor voters by positive action? And is the G.O.P. platform going to appeal to labor on the ground that the right "atmosphere" alone will enable private enterprise to create better security for workers, or will the party give a solid undertaking to preserve and extend the social protections which Willkie has been advocating as the proper assurance of a humane society? Evidence that labor's spreading dissatisfaction with the war agencies will not automatically turn it to the G.O.P. was furnished by the Political Action Committee last week when it bitterly criticized acts of the government and, at the same time, strongly indorsed a fourth term for Roosevelt and a second term for Wallace.

(2) How can the G.O.P. handle the hot potato of farm policy? The farm vote seems assuredly Republican but, in consequence, the farm voter is out to exact his price. The prospect is that the Republicans will have to accept the basic agricultural commitments of the New Deal and make as good an appearance of not doing it as possible, so as not to offend customers on either side of the city line.

(3) Will the Republican Party try to recapture the Negro vote by standing clearly for equality of political and economic opportunity, including repeal of the poll tax by congressional action, or lose the Negro vote by continuing to play with southern Democrats to embarrass the Administration?

(4) How is the Republican Party going to convince a more cynical and mature electorate that it intends to make good the words it speaks in behalf of international cooperation, so as not to scare away voters by the prospect of another era of the Harding isolationism.

(5) Finally, are the Republicans going to offer an explicit alternative to four years of Roosevelt or, instead of erecting a platform, erect a tent of sheltering generalities which will cover all their divergent groups from the Chicago Tribune to the New York Herald Tribune, from Gerald Nye and Clare Hoffman to Wendell Willkie and Wayne Morse?

• **Solutions Wanted**—These are the real problems which vex the practical G.O.P. politicians who, some of their best friends fear, may snatch defeat out of the jaws of victory if they don't watch out.

I'm Mickey, the Microbe
— A tough little twirp —
From cup lips to your lips I caper
So very prolific
They call me terrific
But I'm licked when the cup's
made of paper!

AJAX ▶
Paper Cups

◀ AERO
Paper Cups

COLUMBIAN ▶
Paper Cups

◀ PEERLESS
Paper Cups

USE PAPER CUPS

LOGAN DRINKING CUP COMPANY
68 Prescott Street, Worcester 5, Mass.

PACIFIC COAST ENVELOPE COMPANY
416 Second Street, San Francisco 7, Calif.

C-7

Divisions of
UNITED STATES ENVELOPE CO.
13 Plants from Coast to Coast

clews to how they will stand in their final vote, but less hostility toward the demand of the South and West was observed than in previous rate equalization cases.

Then, too, this is an election year and the commission will be handing down its decision in the fall. ICC is as nearly alien to partisan politics as a government agency can be, but it is the servant of Congress. Congressmen from states outside of eastern rate territory have declared their intention, if disappointed by the commission, to press their demand for legislating full rate equalization.

•

Capital Gains (and Losses)

Resignation of Charles E. Wilson as executive vice-chairman of WPB again is on Roosevelt's desk, but the President still may refuse to release him. Appointment of Arthur H. Bunker as deputy executive vice-chairman confirms his position as Wilson's heir apparent (BW—Jun.17'44,p5).

The Navy this week turned over to the Blaw-Knox Co. of Pittsburgh operation of the York Safe & Lock Co. plant at York, Pa. Last January the Navy took over the plant charging "unsatisfactory management conditions" (BW—Feb.12'44,p18). It produces antiaircraft guns.

The key to future naval construction is the present action in the Pacific.

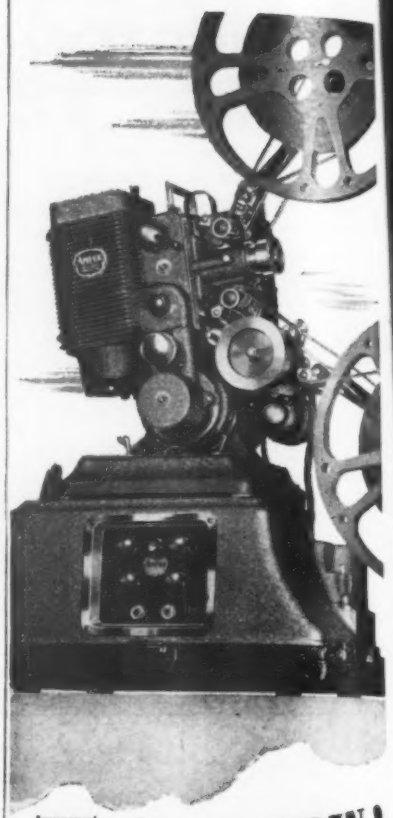
Smaller War Plants Corp. is ready to announce formation of a research foundation to furnish technical and scientific information to small plants, and keep an eye out for products and processes adapted to the little fellow's use. Primarily an agency for distributing information, the foundation probably will be far short of SWPC's earlier dreams (BW—Apr.22'44,p7).

Pullman sleeping cars will get Freon this summer (BW—May27'44,p63) because the Army has insisted on air conditioning for all cars used to move wounded soldiers. Since cars will be used interchangeably, there is no way of reserving Freon for hospital trains exclusively.

—Business Week's
Washington Bureau

THE COVER

Gen. Charles de Gaulle forces into the open something that Great Britain, Russia, and the U. S. would like to settle before they talk about it—the problem of where the rest of the United Nations stand in relation to the Big Three. The self-appointed leader of the French often is suspected of plotting dictation but never of accepting it *(page 111).*



Ampro Sound Model 8A

TESTING NOW!

For over two years, thousands of AMPRO 16 mm. sound projectors have undergone gruelling tests—from arctic wastes to South Pacific jungles, on aircraft carriers, destroyers, submarines—under blazing sun and in subzero temperatures. Out of this cruel laboratory of war have come sturdy, practical 16 mm. projectors exceeding even prewar AMPRO efficiency. Today these "war-tested" AMPRO machines are being made exclusively for the United Nations armed forces. *When peace comes—they will be available for bringing new worlds of entertainment and education to the home.* Write today for Ampro catalog of 8 mm. silent and 16 mm. silent and sound projectors.

Buy War Bonds

AMPRO

Ampro Corporation,
Chicago 18
Precision Cine Equipment

THE OUTLOOK

War plants need 200,000 workers right now. With these words spoken before the Senate's war investigating (Truman) committee, Donald Nelson this week undertook to damp down reconversion enthusiasm.

This should be a challenge to War Manpower Commission whose new labor controls go into effect the first of the month (BW—Jun.3'44,p96).

But, while the fate of the invasion hangs in the balance, there will not be enough manpower to start much production for civilians.

•

When Nelson read the labor shortage into the record at 200,000, he also pretty well settled a long-standing argument on manpower trends.

Many authorities heretofore have held that increased efficiency in utilization of manpower, along with cutbacks in arms programs, would free enough workers to offset the steady drain on manufacturing employment. Business Week consistently has questioned this theory.

Manufacturing employment dropped again in May and now is a million lower—some 7%—than the peak last November. Selective Service and "evaporation" meanwhile have kept unemployment under a million.

•

Detroit has become the most distressing labor-shortage area. That isn't surprising if you look at the drop in automotive employment.

The auto industry had 760,000 workers at the end of November, 675,000 at the end of May. Of this 85,000 decline, 35,000 came in May.

•

Now we face one of the most critical periods in war production, a period of peculiarly trying shifts. **And we have no slack in the labor market** to cushion the impact of these shifts.

When Nelson calls Detroit the area of most critical manpower lacks, he must have clearly in mind the Army's demand for more tanks at once.

The tank program was cut back long ago. Everyone thought we had plenty; there even was talk of this weapon's being obsolete, and the heavy artillery program came in for new emphasis. But tanks reasserted their effectiveness on the Cherbourg peninsula and heavy losses have renewed demand for them.

Similarly, the cutback **smokeless powder** program has been revived. Maritime Commission says up, not down, on **merchant ships.**

These shifts mean added burdens on the labor-short steel, copper, brass, and chemical industries—and demand for a lot of new tools.

•

Prime Minister Churchill's carefully hedged prediction that the victory over Germany might possibly come this summer suggests that the present pinch in manpower, and to some extent in materials, may be short lived.

In fact, a large part of the big guns, shells, tanks, ships, landing craft, and planes now being built for Europe might never get there. Yet they have to be built for fear the war may drag, so **the man-hours and the steel required to build them will be used in any case.**

•

Watch steel. There can be no real reconversion until it is easier.

Steel output is sold solid through the third quarter. More tanks, even though they supplant export locomotives in the war program, are going to take additional steel. If (and this is a big "if") the Maritime Commission ups ship output, there goes still more steel.

The industry's output rate has been sliding for nearly two months. It is

still above 97% of capacity, but workers have been overtaxed putting in extra hours for men gone to war. And hot weather will take its toll.

Steel, more than copper and aluminum, now is the yardstick for allocations under the Controlled Materials Plan; if steel can be made available for each production program, everything else will take care of itself.

It's the yardstick for civilian goods just as much as for arms.

•

What is, realistically, the outlook for steel supply this year and next?

First off, **if Germany should be out of the war by late summer, the cut in military production within a year probably would be 40%. That's what officials are now saying.** Earlier they had said 25%, then by degrees they went up to 30%, and only a few weeks ago they made it 35%.

Not all arms output would be cut by 40%, but as nearly as such things can be figured, military demand for steel would be down 20,000,000 ingot tons.

Nonmilitary users now are getting about 35,000,000 tons; add 20,000,000 and the total equals actual steel consumption in 1937.

In trying to guess when you will be able to get steel, **remember the deepest cutbacks will come very soon after the German surrender.** Army and Navy will try to get programs down to Japanese requirements as fast as they can.

•

If steel should become available at the rate of 55,000,000 tons a year by the middle of 1945, it is no cinch bet that all of it could be used in the manufacture of goods for civilians.

Consumer demand would be high enough, to be sure, but bear in mind that a large part of the automotive industry would still be tied up on aircraft, particularly engines. Other industries, particularly those with severe reconversion problems, wouldn't be able to get into full stride by that time.

Many lines, of course, would be taking more steel than in 1937 within a year if the war were to end this summer. These include railroad equipment, containers, hardware, and any number of gadgets and knickknacks. Farm machinery probably would boom, too.

But a good steel year needs big volume in autos, refrigerators, office furniture and equipment, and no end of other consumer durable goods.

•

Every present indication is that reconversion will be off to a good start in aluminum before it is in steel.

Once the present peak demand for arms is met, WPB will turn the makers of industrial and commercial utensils loose. (Barring a serious reversal in France, this should be within a matter of weeks.) Later in the year, limited manufacture of household aluminum utensils will be resumed.

Availability of manpower will be the limiting factor. But even this will cut little ice once Germany's defeat is in sight.

•

Right now it looks as though the draft would not have to cut much more deeply into the labor force. Reason: Battle casualties have been lower than expected.

Losses in Italy to the fall of Rome were 62,000, killed, wounded, and missing, 15,000 during the first eleven days of the invasion of continental Europe. These indicate no extraordinary replacement demand.

Contents copyrighted under the general copyright on the June 24, 1944, issue—Business Week, 330 W. 42nd St., New York, N. Y.

Shell fuse plant—With soluble oil as the cutting fluid, this machine drilled and tapped 700 parts per hour. With Gulf Cut-Aid—no other changes—production is approximately 1,000 per hour . . . a gain of 43%!

Cartridge belt link plant—Ordinary quenching oils wouldn't do the job. With Gulf Super-Quench, production of links increased 30%, rejections were practically eliminated, and press downtime for reshaping dies was reduced 33%.

Textile mill—All-round better performance of Dobby looms with Gulf quality lubricants resulted in a 50% reduction in seconds.

How

Gulf Quality Petroleum Products

help increase output and reduce costs

These plants are typical of hundreds in every industry that have secured many worthwhile benefits directly as a result of the superior performance of Gulf quality lubricants, quenching and cutting oils.

Increased production, longer bearing and tool life, better finishes on machined parts, improved rust prevention, lower maintenance costs, and improved physical properties in many types of steel—these are some of the results industry is obtaining through the use of the proper Gulf petroleum products, as recommended by Gulf Service Engineers.

It will pay you to investigate these *more efficient production and maintenance tools.* Call in a Gulf Service Engineer today and ask him to give you additional facts on their quality and performance values.

Back the Attack . . .

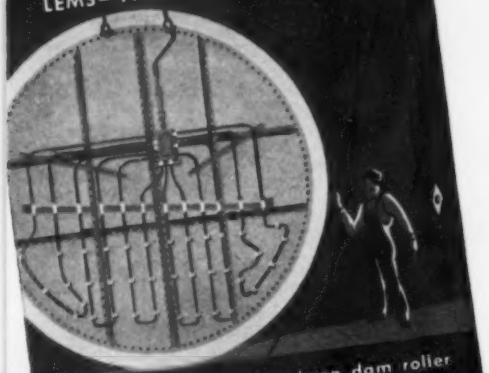
Buy More War Bonds!

GULF INDUSTRIAL LUBRICATION

helps make machines produce more at lower cost

GULF OIL CORPORATION · GULF REFINING COMPANY · GULF BUILDING, PITTSBURGH 30, PA.

CUTLER-HAMMER ELECTRIC HEATERS HAVE SOLVED THESE PROBLEMS—AND HUNDREDS MORE



Cutler-Hammer Heaters keep dam roller gates free of ice.

Cutler-Hammer Heaters keep dies hot in embossing presses.

Cutler-Hammer Heater Units are used in many types of better heating devices.

Cutler-Hammer Heaters provide clean, automatically controlled heat for sterilizers.

Here's How

YOU CAN SOLVE THAT SPECIAL HEATING PROBLEM

Do you want to heat the cab of a traveling crane . . . or an isolated watchman's hut . . . or a corner in some loft? Do you want to "spot heat" a moving member in a special machine, or a plastic press, or a folding machine, a glue cooker or a shoe stitcher or a warming oven? Do you want heat that you can turn on and off at the touch of a button? Then you will be interested in Cutler-Hammer Electric Heat, tool of a thousand uses, capable of being shaped, applied and controlled in more ways than perhaps you ever thought possible. You may also be interested in the judgment of plant executives and machine designers who know the importance of the correct, efficient and economical solution of such heating problems. They have found that Cutler-Hammer's specialized knowledge in this field, dating from 1910, has been directly instrumental in securing to them the utmost advantages of the electric heating method. Why not write Cutler-Hammer today for details of Cutler-Hammer Electric Heat? CUTLER-HAMMER, Inc., 1275 St. Paul Ave., Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ont.

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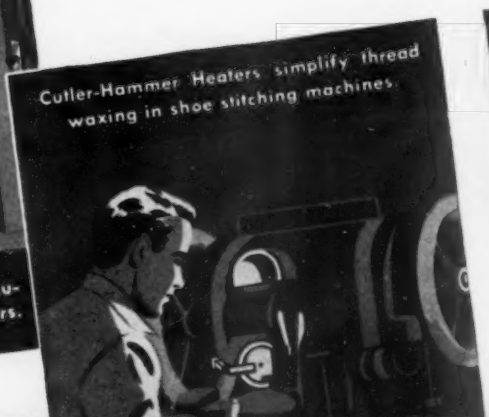
CUTLER-HAMMER
ELECTRIC HEAT
C-H



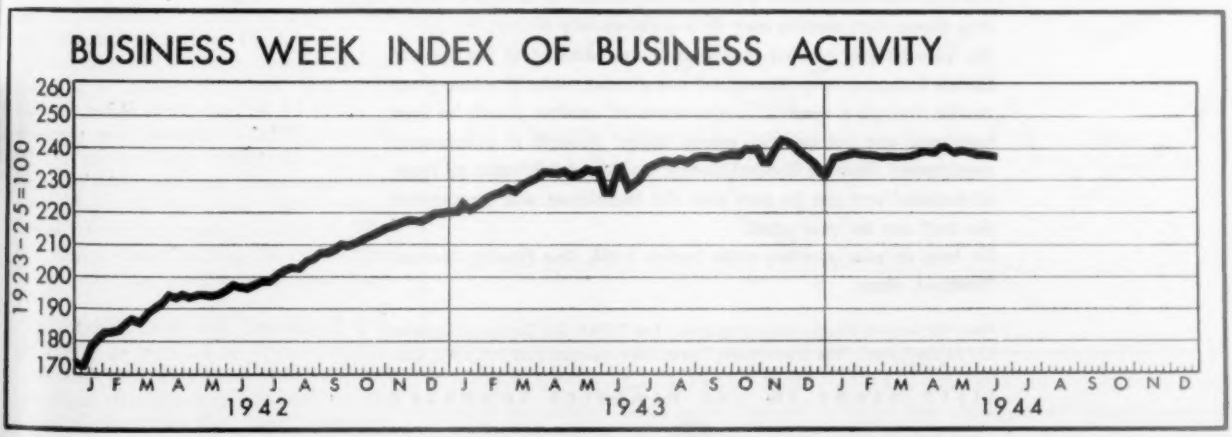
Cutler-Hammer Heaters simplify thread waxing in shoe stitching machines.

Cutler-Hammer Heaters keep incubators at a safe, even temperature.

FIGURES OF THE WEEK

	§ Latest Week	Preceding Week	Month Ago	6 Months Ago	Year Ago
THE INDEX (see chart below)	*238.4	†238.8	240.0	238.1	235.6
PRODUCTION					
Steel Ingot Operations (% of capacity)	97.3	97.1	98.4	93.0	97.6
Production of Automobiles and Trucks	18,985	18,930	17,770	18,850	19,080
Engineering Const. Awards (Eng. News-Rec. 4-week daily av. in thousands)	$5,362	$5,358	$5,786	$6,178	$11,934
Electric Power Output (million kilowatt-hours)	4,287	4,265	4,246	4,613	4,098
Crude Oil (daily average, 1,000 bbls.)	4,568	4,523	4,513	4,364	3,966
Bituminous Coal (daily average, 1,000 tons)	2,077	2,082	2,093	2,175	1,942
TRADE					
Miscellaneous and L.C.L. Carloadings (daily average, 1,000 cars)	81	82	82	81	80
All Other Carloadings (daily average, 1,000 cars)	64	63	63	57	62
Money in Circulation (Wednesday series, millions)	22,333	22,255	21,846	20,235	17,189
Department Store Sales (change from same week of preceding year)	+2%	+7%	+31%	None	+29%
Business Failures (Dun & Bradstreet, number)	30	22	28	42	78
PRICES (Average for the week)					
Spot Commodity Index (Moody's, Dec. 31, 1931 = 100)	250.1	249.8	250.3	247.1	243.6
Industrial Raw Materials (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	165.3	164.9	163.9	160.7	159.7
Domestic Farm Products (U. S. Bureau of Labor Statistics, Aug., 1939 = 100)	224.3	224.0	223.6	218.2	208.2
‡Finished Steel Composite (Steel, ton)	$56.73	$56.73	$56.73	$56.73	$56.73
‡Scrap Steel Composite (Iron Age, ton)	$19.17	$19.17	$19.17	$19.17	$19.17
‡Copper (electrolytic, Connecticut Valley, lb.)	12.000¢	12.000¢	12.000¢	12.000¢	12.000¢
‡Wheat (No. 2, hard winter, Kansas City, bu.)	$1.57	$1.61	$1.62	$1.63	$1.37
‡Sugar (raw, delivered New York, lb.)	3.74¢	3.74¢	3.74¢	3.74¢	3.74¢
Cotton (middling, ten designated markets, lb.)	21.59¢	21.45¢	21.03¢	19.75¢	21.06¢
‡Wool Tops (New York, lb.)	$1.340	$1.340	$1.340	$1.296	$1.357
‡Rubber (ribbed smoked sheets, New York, lb.)	22.50¢	22.50¢	22.50¢	22.50¢	22.50¢
FINANCE					
90 Stocks, Price Index (Standard & Poor's Corp.)	102.3	98.8	96.4	92.0	95.0
Medium Grade Corporate Bond Yield (30 Baa issues, Moody's)	3.59%	3.60%	3.62%	3.82%	3.88%
High Grade Corporate Bond Yield (30 Aaa issues, Moody's)	2.73%	†2.72%	2.72%	2.74%	2.72%
Call Loans Renewal Rate, N. Y. Stock Exchange (daily average)	1.00%	1.00%	1.00%	1.00%	1.00%
Prime Commercial Paper, 4-to-6 months, N. Y. City (prevailing rate)	¾%	¾%	¾%	⅝–¾%	⅝–¾%
BANKING (Millions of dollars)					
Demand Deposits Adjusted, reporting member banks	37,229	36,879	35,362	34,750	32,787
Total Loans and Investments, reporting member banks	50,405	50,032	50,319	50,509	46,965
Commercial and Agricultural Loans, reporting member banks	5,913	5,870	5,990	6,410	5,625
Securities Loans, reporting member banks	1,886	1,836	1,779	1,997	1,457
U. S. Gov't and Gov't Guaranteed Obligations Held, reporting member banks	37,259	37,027	37,232	36,722	34,251
Other Securities Held, reporting member banks	2,897	2,850	2,851	2,795	3,065
Excess Reserves, all member banks (Wednesday series)	1,100	800	900	1,238	1,632
Total Federal Reserve Credit Outstanding (Wednesday series)	15,606	15,183	14,382	11,704	7,088

* Preliminary, week ended June 17th.
† Revised.
‡ Ceiling fixed by government.
§ Date for "Latest Week" on each series on request.



INSURE YOUR FUTURE BY BUYING MORE WAR BONDS AND SAVING THE

VERSATILITY

USAAF Photo thru OWI from ACME

In each United States Air Force plane, hundreds of different plastics parts are put to work. From panel board to loop antenna housings, plastics in many forms—laminates, compression and injection moldings, and low pressure molded parts—are proving their value. The fact that these many parts are put to work in one large structure shows that plastics may fit a great variety of uses.

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FIFTY YEARS IN THE PLASTICS INDUSTRY

GENERAL ELECTRIC

BUSINESS WEEK

NUMBER 773
JUNE 24, 1944

Market Evaluates War News

Industrials surge ahead as weekly trading volume hits highest levels since May, 1943. Wall Street jitters fail to appear, but traders see more emotional days ahead.

The stock market's reputation for double-crossing its oracles at the last minute should have warned veteran Wall Streeters not to go so far out on the limb in their bearish predictions concerning the outlook for the market during the early invasion days.

• **Stuck to Their Story—But** right up until D-Day, a majority of the Street's professional traders and market students remained firmly convinced that considerably lower stock prices would follow on the heels of actual invasion news. And for a while after D-Day, they had some reason to feel they were right, since the initial reaction disclosed much confusion among investors and traders.

However, that phase didn't last long, and there were no signs of the "invasion jitters" the bears had been predicting (BW—May6'44,p75). Neither did the favorable invasion news suggesting a speedier close to the war in Europe start the wholesale selling of stocks that similar reports had previously caused (BW—Nov.13'43,p110).

• **Industrials Surge Ahead—**Instead, the favorable news from Normandy and other fronts soon began to be considered a highly bullish factor, and both the industrial and the rail stocks started a forward surge that has grown at times into almost boom proportions.

Early this week the Standard & Poor's industrial stock price index had burst through previous resistance points without any trouble and soared some 6% above preinvasion levels to a peak not seen since September, 1939.

Also, the rail average, though not as buoyant as earlier this year, was at its highest point since the fall of 1937.

• **Leaps and Bounds—**Trading volume, which for so long before D-Day had been of but nominal proportions, has also advanced by leaps and bounds. Total volume last week, almost 11,500,000 shares, provided Big Board member firms with their busiest week since May, 1943.

Market activity has broadened considerably, as well. The "peace stocks" have been providing most of the volume, but their strength also has held up the price of shares in the "war" category, and thus far there has been no wholesale dumping of the latter.

From all accounts, many investors and traders finally have decided to forget, at least temporarily, their earlier fears that the ending of the war, with the wholesale cancellation of armament contracts, immediately would unloose widespread unemployment conditions and culminate, for a time at least, in a severe depression period.

• **Looking Ahead—**But apparently the active buyers now are buying on the basis of the period of prosperity they see ahead for corporations after reconversion problems have been settled.

Also, many in Wall Street are convinced that a certain amount of inflation is bound to come when the war is over.

• **Some Ten-Point Gains—**In the past fortnight such traditional market leaders as the common shares of General Motors, Chrysler, Bethlehem, U. S. Steel, Eastman Kodak, Westinghouse, General Electric, and International Harvester have gained almost as much as ten points, and everyone agrees that there has been a certain amount of investment buying in the market lately.

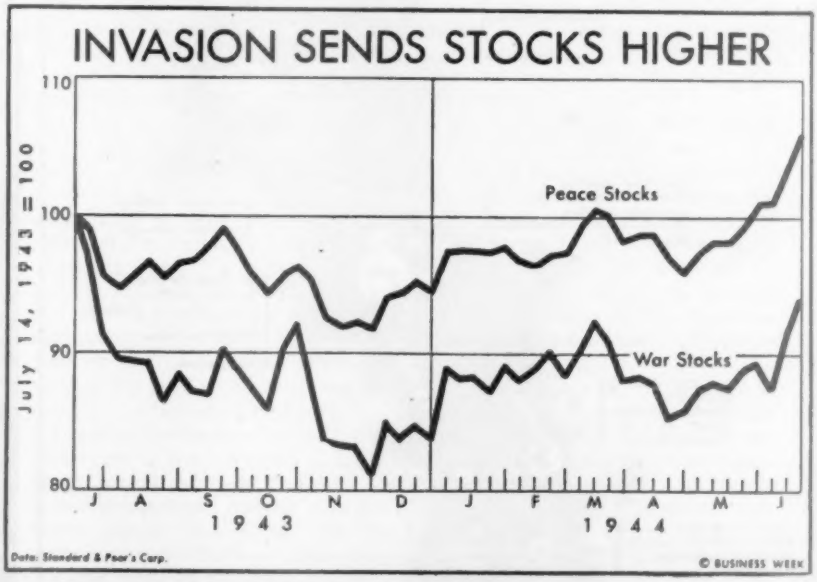
Nevertheless, phenomenal activity has been seen in various shares selling within or near the "under $10" category and especially in the stocks of "independents" in the automobile field whose post-1929 operating records until war began to stimulate activity were far from satisfactory.

• **Low-Price Issues Lead—**Seven issues, for example, which at last Saturday's close were selling at an average price of only $9.75, provided more than 14% of all activity in the two weeks ending June 17, whereas trading in seven traditional leaders accounted for only 2.4%.

This evidence that the small speculator—who generally ignores the usual market indicators because he is primarily interested in the size of quickly obtainable "percentage profits"—is beginning to run wild already has brought warnings from various Street quarters.

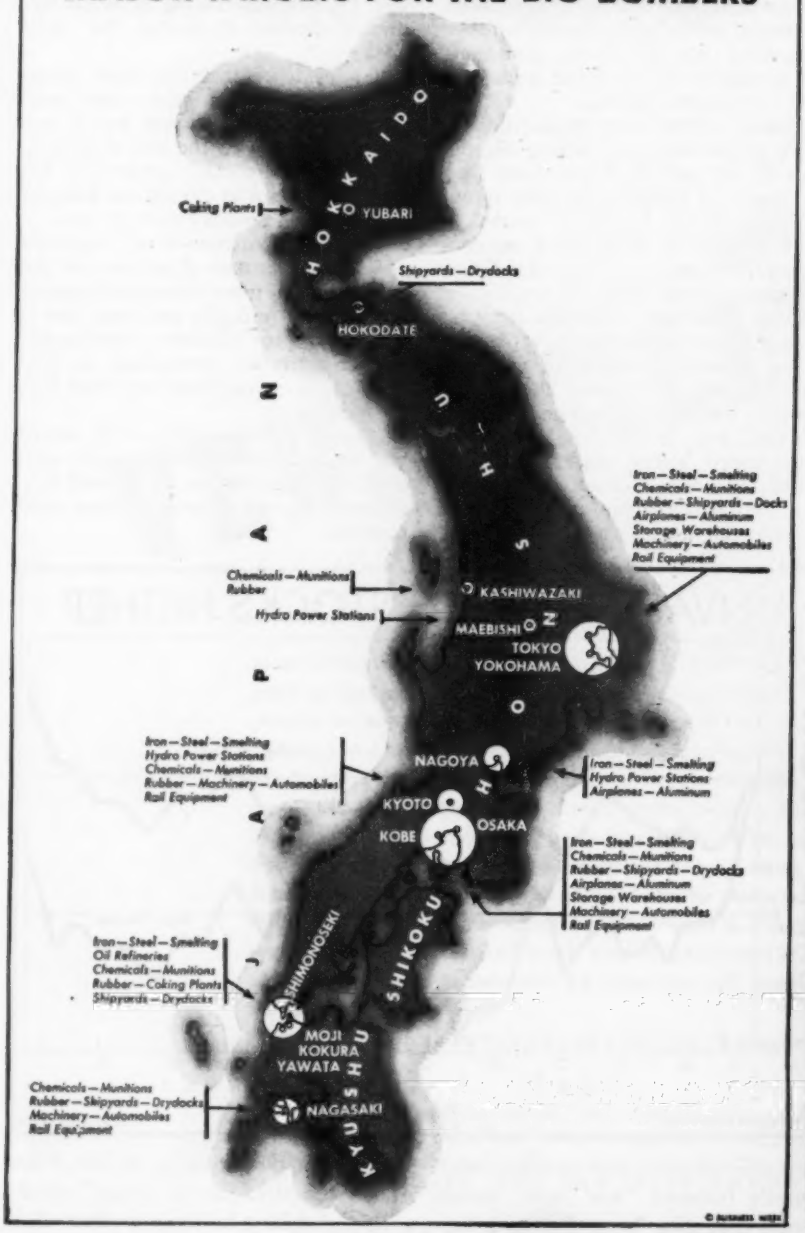
• **Reaction Predicted—**This condition makes many brokers anticipate for the days ahead a more emotional market than is seen normally and one that is quite apt to disclose considerably sharper corrective movements, as well as sharper advances, than have been seen for some time.

Because of the rapidity of the recent rise, too, a technical reaction quite soon would not surprise the Street, and buyers currently are beginning to show some caution.



It is difficult these days to differentiate strictly between "war" and "peace" stocks but the "peace" stocks have been the main beneficiaries of the present market upswing. In fact, it has been the strength of "peace" stocks which has been holding up shares definitely in the "war" stock category.

MAJOR TARGETS FOR THE BIG BOMBERS



First revealed to the world by the fires of Japan's bombed steel plants at Yawata, the new Twentieth Air Force's long-secret Boeing B-29 Superfortress (page 119) is paced (above) by a B-17 Flying Fortress—its predecessor—for a vivid comparison in size and appearance. Deep in the southwest region of Free China, hand labor (below) painfully builds great landing fields of river stones and earth—springboards for the methodical destruction of Japan's industries by growing squadrons of the big new bomber. For unlike those of other major powers, Japan's vital war industries are highly concentrated (left), being clustered along a topographical backbone stretching 600 miles southwest from Tokyo—making them comparatively easy prey for future bombloads from the high-altitude, long-range planes.

Plan for Lumber

Comprehensive system of allocation, effective on Aug. 1, puts lid on demands of big users, including Army and Navy.

WPB took the wrappings off its new machinery for allocation of lumber this week, in many ways its most ambitious undertaking since the Controlled Materials Plan, which regulates the flow of metals.

After Aug. 1, these regulations will control all but a negligible percentage of the most widely used material in the economy. Every demand for lumber—from gunstocks to hen coops—will have to fit into the pattern.

• **The Final Step**—The new lumber regulations are no surprise. They are the last major step in the tightening-up process that began two years ago.

Early this year WPB executives decided that piecemeal control would have to give way to a comprehensive system of allocation and end-use regulation. In March, they directed all major consumers of lumber to file applications giving their estimated requirements for the second and third quarters.

• **Production Skids**—In setting up the new plan, WPB had its eye on production and consumption figures.

Consumption, which was rocking along at a comfortable 26,100,000,000 b. ft. a year in 1939, shot up to 42,600,000,000 b. ft. in 1942, and slid off (in the face of growing stringency) to 38,792,000,000 b. ft. in 1943. Meanwhile, production, after hitting a peak of 36,500,000,000 b. ft. in 1941, skidded down to 34,630,000,000 b. ft. in 1943—largely because of manpower and equipment shortages.

• **This Year's Needs**—For 1944, the best estimate is that requirements will run around 34,500,000,000 b. ft.

Production probably will come out somewhere between 30,000,000,000 b. ft. and 31,000,000,000 b. ft. Wholesale, retail, and mill stocks, which made up the deficit in preceding years, are down to a bedrock of about 7,000,000,000 b. ft., which compares with 17,299,000,000 b. ft. at the end of the first quarter of 1942.

• **Stumbling Blocks**—The problem of controlling lumber is complicated by at least two other factors:

(1) The number of suppliers and users is almost infinite. There are 37,000 commercial sawmills, at least 10,000 large consumers (50,000 b. ft. a quarter), and a multitude of small users. Nearly half the country's production comes from 28,000 small mills, each producing less than 5,000,000 b. ft. a year.

(2) At this stage of the war program, there are few nonessential uses that can be cut to make way for military needs. About 17,000,000,000 b. ft.—roughly half the 1944 demand—will be required for packaging and crating. Much of the rest will go for industrial maintenance and essential construction. Even a flat prohibition on all civilian use would not make up the deficit.

• **First Step**—Basic idea of the new control system is to total up all demands for lumber, then trim them down until demand matches supply. Theoretically, every user then will be able to get lumber up to the limit WPB assigns him. The burden of compliance will be on the consumer and distributor rather than on the producer, which will make policing easier.

The first step is for all major consumers—those who require 50,000 b. ft. or more a quarter for uses not specifically exempted—to file estimates of their needs with the lumber division of WBB, which will administer the order.

WPB takes these estimates, adds to them military requirements, farm needs as estimated by the War Food Administration, and its own estimate of various small civilian requirements. Then the requirements committee decides how much lumber can be assigned to each category.

• **Estimates Trimmed**—The requirements committee has just finished this job for the third quarter.

It trimmed total requirements from 10,570,000,000 b. ft. to 9,152,000,000 b. ft. which equals estimated production for the quarter. Major industrial users were compressed from 6,356,000,000 b. ft. to 5,219,982,000 b. ft., military requirements from 1,715,000,000 b. ft. to 1,568,241,000 b. ft.

• **Allocations Subdivided**—The requirements committee does not make assignments direct to industrial applicants but

Distillers Get War Alky Furlough

From snooty cocktail bars and the whoopee haunts of the lowly came signs of satisfaction this week at the announcement of the long-expected liquor furlough (BW—May8'43, p8). WPB informed the distillers that they would not be required to make industrial alcohol during August. The plants would therefore be able to devote their entire facilities to whisky or beverage alcohol.

• **Enthusiasm Is Tempered**—Thirsty millions heard happy estimates that put August production as high as 25,000,000 gal. of 190-proof alcohol which would furnish motive power for 50,000,000 gal. or more of blended whiskies and gins.

But distillers' enthusiasm was tempered by a review of handicaps. WPB has long wanted to grant the furlough but has insisted that the required grain would be needed for food and industrial alcohol. Presumably WPB wouldn't now have announced the furlough without first obtaining from War Food Administration assurance that it would release the needed supplies, but the liquor trade is convinced that Marvin Jones, head of WFA, is a dry at heart and will do his best to cross up any resumption of liquor manufacture.

• **Grain at Minimum**—Carrie Nation herself could not have picked a furlough period more embarrassing to liquor production. August is in between harvest seasons so that the grain supply problem is aggravated.

Grain stocks in the hands of distillers are at a minimum. Even those that have grain must get WPB permission before they can use it for beverage distillation. In the trade it is thought that most of the August production must be alcohol from wheat, the only grain readily available in volume. A government order prohibits the use of corn for whisky making after July 1.

• **Other Problems**—Moreover August is a month during which distilleries have been accustomed to shut down because of water shortages. It is a period when springs and wells go dry, when brook water becomes so warm that it does not lend itself to satisfactory mash making.

Other headaches are shortages in new oak barrels, bottles, and paper containers.

• **Break for Seagram**—Most important of all, the industry would have to run 24 hours a day, seven days a week during August to make 25,000,000 gal. of alky. Distillers are allowed to work only between sunrise and sunset, must shut down all day Sunday when engaged in beverage liquor production. If this restriction isn't eased, production will be far short of the goal.

The outlook is for production of alcohol, rather than straight whiskies. This is indicated by the probable use of wheat, and by the fact that alcohol can be used in all sorts of blends. The result will be a break for Seagram, which has actively promoted blends, is not so good for National and Schenley which have emphasized straight whiskies.

First Things First

For the guidance of all federal agencies concerned, Donald Nelson of WPB released this week a list of the 200 or so most urgently needed civilian items—those to which relaxations will first apply (page 5).

The list is in three parts: Group I, items which will be in most serious shortage during the third quarter; Group II, those in which there will be some shortage; Group III, other items that are tight.

Group I

Mechanical refrigerators.
Sewing machines.
Vacuum cleaners, household.
Electric ranges.
Electric space heaters.
Heating pads.
Commercial electric appliances.
Electric fans.
Vacuum cleaners, industrial.
Farm radio batteries.
Office typewriters.
Laundry and dry cleaning machinery.
Washing machines.
Ironing machines.
Floor finishing machinery.
Vacuum tubes.
Refrigeration and air-conditioning items.
Portable electric lamp shades and electric lamps.
Motion picture equipment.
Bathtubs.
Plumbing fixtures, fittings.
Gas hot plates.
Gas ranges.
Coal and wood stoves.
Fuel oil stoves, portable.
Oil-fired floor furnaces.
Domestic oil burners.
Domestic stokers.
Electric water heaters.
Snow shovels.
Furnace scoops.
Steel tray wheelbarrows.
Hand hair clippers.
Watches and cases.
Carpet sweepers.
Mop wringers.
Roasters.
Stainless steel cooking utensils.
Firesets.
Grates.
Fireplace screens.
Hairpins and bob pins.
Coal hods.
Funnels.
Galvanized oil cans.
Domestic oil storage tanks.
Hydropneumatic tanks.
Aluminum cooking utensils.
Gutters, downspouts.
Chains, auto and tractor.
House trailers.
Gypsum lath wallboard.
Asphalt and tar roofing, and siding products.

Group II

Bicycles.
Fuses (under 2,300 v.)
Incandescent lamps, miniature.
Commercial electric cooking and heating appliances.
Flashlight batteries.
Railroad lantern batteries.
Dry cell batteries.
Office machinery (except typewriters).
Scales and balances.
Commercial dishwashers.
Ice refrigerators.
Flashlight cases.
Kerosene lamps.
Tubular lanterns.
Nursery seats and chairs.
Play pens.
High chairs.
Chifforobes, baby.
Baby baths.
Cribs.
Wood furniture, other than nursery.
Scullery sinks.
Shower stalls.
Cast-iron boilers.
Cast-iron radiators.
Gas ranges and cookstoves.
Coal and wood ranges and cookstoves.
Oil cookstoves.
Combination ranges.
Portable and drum ovens.
Bakers, nonelectric.
Broilers, nonelectric.
Fryers, nonelectric.
Hot plates, nonelectric.
Ovens, nonelectric.
Ranges, nonelectric.
Roasters, nonelectric.
Toasters, nonelectric.
Steam cookers and vegetable steamers, nonelectric.
Steam tables, nonelectric.
Coffee brewers, nonelectric.
Warmers, nonelectric.
Steam kettles, nonelectric.
Urns, nonelectric.
Food serving and preparation fixtures and equipment.
Gas radiant and bathroom heaters.
Gas circulating heaters.
Gas floor furnaces.
Schoolroom stoves.
Laundry stoves.
Fuel oil stoves, nonportable.
Warm air distribution equipment.
Furnaces, warm air (cast iron and steel).
Commercial stokers.
Low pressure steam and hot water heating specialties.
Gas sidearm water heaters.
Underfired water heaters.
Coalfired water heaters.
Indirect water heaters.
Household kitchen cutlery.
Scissors and shears.
Alarm clocks (electric and spring wound).
Animal traps and cages.
Blued steel drip pans.
Clothes pins, wood.
Clothes pins, metal spring.
Miscellaneous household articles.
Heat- and flame-resistant cooking utensils.
Insecticide spray guns.
Kitchen tools.
Wire garment hangers.
Curtain rods.
Emblems, pin tickets and tags.
Common pins.
Safety pins.
Fountain pens.
Woodcased pencils.
Umbrellas.
Baby carriages.
Galvanized pails.
Galvanized utility buckets.
Washtubs.
Sofa beds and lounges.
Hardware cloth.
Metal plastering bases and accessories.
Screen cloth.
Metal-edged gypsum plank.
Manhole fittings.
Gasoline flatirons.

Group III

Motors, electric.
Appliance cords.
Extension cords.
Incandescent lamps, large.
Fluorescent tubes, F and RF.
Electric irons.
Hearing-aid batteries.
No. 6 battery cells.
Flat wick lamps.
Gasoline pressure lanterns.
Coil and flat springs.
Box springs.
Metal crib springs.
Cots and rollaways.
Chemical toilets.
Kitchen sinks.
Low pressure steel boilers.
Oil and gasoline camp stoves.
Oil trailer stoves.
Caboose stoves.
Coal and wood stoves.
Unit heaters, ventilators.
Hot water generators.
Combustion, heat generation, and distribution controls.
Low pressure heating pumps.
Tape sealing machines.
Files, rasps.
Cordwood saw blades.
Household steel wool.
Mechanics' hand service tools.
Manicure implements.
Pocket knives.
Professional kitchen cutlery.
Safety razors.
Straight razors.
Razor blades.
Flatware, silver plated.
Black steel fryers.
Lunch boxes and dinner pails.
Vacuum bottles.
Andirons.
Marking devices.
Caskets.
Burial boxes.
Shipping cases.
Metal liners for caskets.
Burial vaults (concrete).
Morticians' instruments.
Musical instruments.
Office supplies.
Mechanical pencils.
Pen nibs.
Baby strollers, walkers.
Church goods.
Galvanized garbage and ash cans.
Fire shovels.
Wash boilers.
Household enamelware.
High pressure steel boilers.
Studio couches.
Hot water storage tanks.
Range boilers.
Shade rollers.
Septic tanks.

passes the allocations along to W industry divisions, which subdivide th among the applicants.

Each major user (Class I) will ceive an allocation from his indus division, and suppliers will be auth ized to ship to him as long as he c certify that he is not exceeding his al cation.

Small users working on priority ord (Class II) also will be able to certi orders for lumber that will be used f their rated business. All other consume (which will include Class II consume who want lumber for unrated uses) w be able to get small lots under a for of dealer rationing which will be s up by a later order from WPB.

• **Not a Guarantee**—This is the bas framework of the new control syste The broad provisions will be suppl mented by a number of specific limit tion orders and directions designed t take care of particular problems.

Allocations in general will not specif what type or grade of lumber is to b used. Nor will they be firm allocation in the sense of guaranteeing the holde a certain amount of lumber. They wi be only general ceilings on lumber us Hence, to many users, the specific di rections will be more important.

• **Six Directives Coming**—WPB no plans to issue at least six specific direc tions, supplementing the general order These will:

(1) Direct some of the larger mills to re serve up to 20% of their capacity for mili tary use.

(2) Limit the use of certain critical specie and grades.

(3) Limit certain farm uses to base period consumption. This will be to keep farmers from going on a building spree while other civilian construction is under wraps.

(4) Limit maximum inventory of certain consumers.

(5) Order sawmills producing certain species to maintain a specified shipping schedule.

(6) Allow distributors to fill small unrated orders to take care of small maintenance and repair needs.

• **Resembles CMP**—The result will be a comprehensive control system, but not an exact one. WPB officials call it "control in bulk." Superficially, the lumber plan resembles the Controlled Materials Plan regulating metals, but it is nowhere nearly so tight a control. To some extent allocations of lumber will be earmarked for specific uses, but there will be none of the precise channeling of the flow of material that characterizes CMP.

The great objection to the plan is its complexity. Its great advantage is that it puts a lid on the demands of large users, including the Army and Navy. WPB executives think it is the last major step that will be necessary to handle the lumber headache.

Powers at River Rouge: Henry Ford II; his mother-director, Mrs. Edsel Ford; and the strong man, Harry H. Bennett.

All Quiet on the River Rouge

Detroit, ever quick to see big significance even in trivial happenings in Ford affairs, now believes that organizational shifts are beginning to shake down into a pattern that will not be changed.

Detroit is second only to Washington as the greatest gossip center in the country, because its industries are so closely bound with the nation's economic lifeblood. And in Detroit the most gossiped subject is the Ford Motor Co. The most intriguing whispers always concern Ford, and in past months the whispers have been amplified.

• **Little Signs, Big Rumors**—The reasons are largely because the name Ford makes big news, whether founder Henry Ford is sweeping the nation with a Model A car or building bombers in a spectacular way at Willow Run.

The men who run the Ford empire are all strong men, too. Their affairs have always been a subject of importance in Detroit rivaling even the events of war as items of public interest.

That is why the removal of a few prize horses from the Michigan farm of a Ford official to his western ranch is enough to start "absolutely authentic" reports that he has been discharged. The shifting of an executive's office is enough to generate the story that he has been promoted at the expense of the former holder of the office.

• **Key Men Resign**—When Edsel Ford died last year, the rumor mill began to turn over at accelerated speed. First there was said to be insufficient money to pay inheritance taxes. Wall Street, hearing the report, tingled with anticipation that its markets might again handle stock which Henry Ford corralled from a small group of other owners in 1919.

But Ford attorneys proved to have met long since the inheritance tax problem (BW—Jun.12'43,p19). Then, reports began to eddy around Detroit of jousting for administrative strength within the greatest private industrial empire this country has known.

These reports proved accurate forecasts, as evidenced by a string of resignations of key men in the months that followed. To understand the jousting requires explanation of the peculiar setup at Ford.

• **Policies for Lunch**—To draw an organizational chart of who reports to whom at River Rouge is extremely difficult and never completely accurate. There are few titles. Ford men simply know they customarily see so-and-so about certain matters, and that ultimately an answer comes back from somewhere up above. Henry Ford is apt to interest himself directly in details far removed from the executive offices or the administrative quarters.

The destinies of the Ford Motor Co. were traditionally settled daily at lunch by a small group gathered with Henry Ford around a big round table on the top floor of the administration building. There the major problems ultimately were threshed out. A group of half a dozen or so top executives took assignments directly from Henry Ford. One day a purchasing agent might delve into an engineering matter, and the next day an engineer might dip into the field of purchasing.

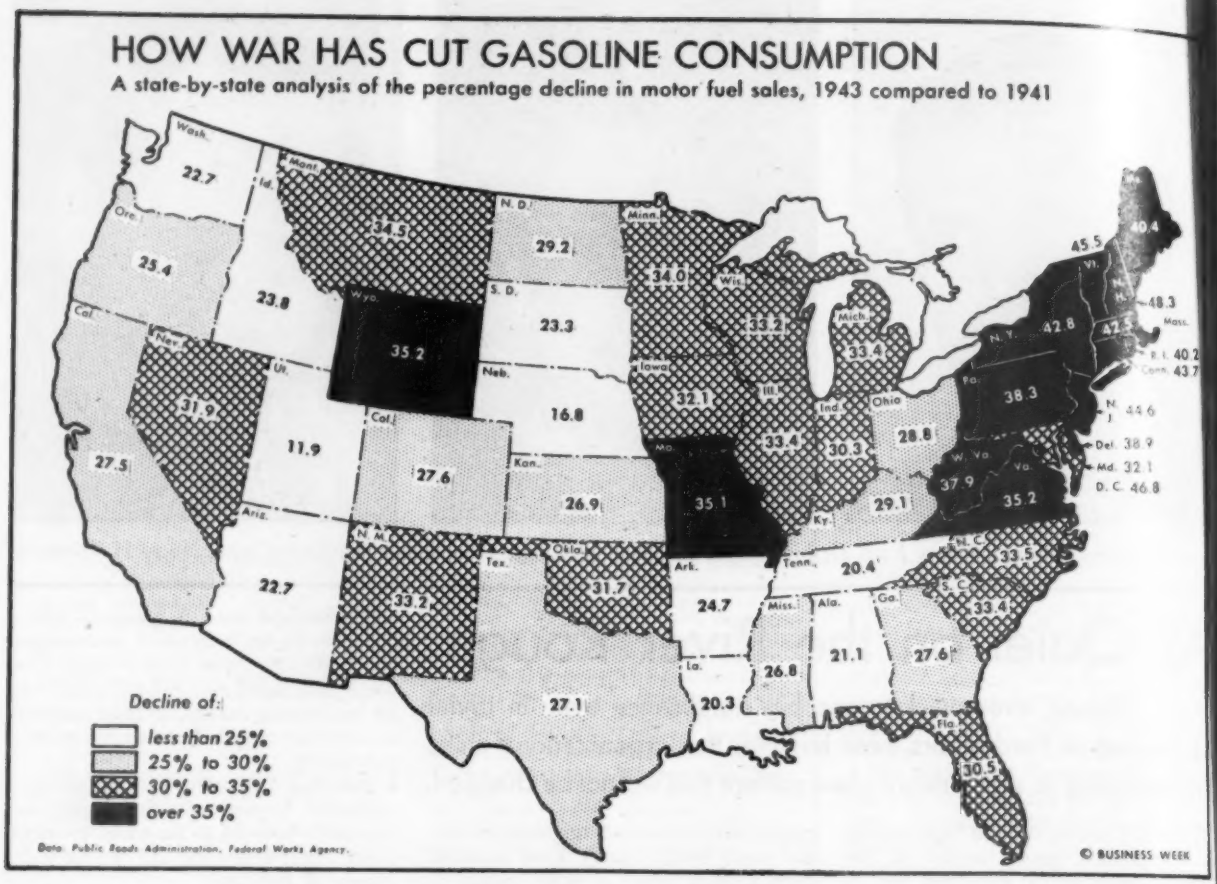
• **Scattered Authority**—This spreading of authority beyond specified fields was popularly believed to have had the occasional effect of striving at Ford for wider ranges of influence.

While Edsel Ford was alive, these spheres were fairly well defined. The elder Ford maintained an official eye over all activities; Edsel Ford handled front office administration; Charles E. Sorensen was in charge of manufacturing; Harry H. Bennett, whose Service Dept. made history in its bloody fight with the C.I.O. United Auto Workers before Ford established the union shop, handled personnel and labor problems.

• **Sorensen's Exit**—Edsel Ford's death started the smart people reporting friction within the Ford organization as top men vied for administrative power. Bennett, always close to Henry Ford, seemed to be winning out. The sales department was reorganized, and its new lines led close to the inconspicuous office Bennett occupied in the basement of the administration building.

Sorensen, meanwhile, was given amplified prestige in his vice-presidency, but Bennett was later made his assistant on administrative matters—indicating, the stories went, that the personnel chief was beginning to move into the hitherto exclusive Sorensen domain of manufacturing.

After a year of rumors, Sorensen resigned a few months ago. This was not unexpected. Sorensen and Bennett



The drop in the use of gasoline in 1943 below consumption of 1941 (last prewar year) varied widely over the nation. In general, the decline was sharpest in the East, least severe in the South and Far West, and about average in the Middle West. Several factors play a part in determining actual gasoline consumption: (1) the black market is strongest in the West and weakest in the East; (2) proximity of oil supply sources helps the South, whereas transportation difficulties still impair the position in the East; (3) gasoline has to be distributed with one eye on need—driving distances are shorter in the East, and there are more alternative means of transportation; (4) since 1941 population has moved to the Far West and South from the East and Middle West, and that has affected rations. While the current burden of cuts in gasoline use is being shared more evenly among the states, the above factors still operate unevenly. Indeed, OPA announced this week that higher-than-expected national gasoline use—due largely to black markets—will prevent any rise in monthly B card rations in the East.

are two strong men, and in the individualized, personalized Ford Motor Co., personality conflicts may be solved only by the emergence of the stronger man. Bennett reportedly had Henry Ford's complete confidence. Belief that he was the top power at River Rouge seemed confirmed by Sorensen's withdrawal.

• **A New Power**—Gradually it was realized that a new factor was appearing on the Dearborn scene. The new factor was 26-year-old Henry Ford II, son of Edsel. Released by the Navy as an essential industry man, the eldest of the third generation of Fords came back to the company and was made a vice-president.

The youngest Ford family administrator began making a good impression on Detroit. He appeared before an auto dealer group and as one of a number of industry spokesmen before WPB in Washington.

• **Socially Conscious**—In these appearances he has impressed others as pleasant and frank to admit that he has plenty to learn and wants to learn it.

His remarks, studied with high interest for clews to the future Ford company destiny, are filled, among other things, with a consciousness of industry's social obligations.

When the young Ford was recently put in charge of sales and advertising, the gossip mills began to grind feverishly. These activities had become so closely identified with the Bennett office during 1943 that the change was thought to be a sign that the center of gravity at Ford was shifting.

• **New Report Discounted**—This theory was bolstered by Detroit reports that Edsel Ford had never seen eye to eye with Bennett, and that his son presumably would feel the same way. In the wake of that story, others began to spring up that Edsel Ford's widow, elected a year ago to the company directorate, also was becoming an influence in company affairs.

But the establishment of the younger Henry Ford in complete charge of the merchandising sphere occupied by Bennett is explained, simply and logically. Bennett has never been primarily identified with sales work. As the thoughts of founder Henry Ford began to turn

to an ultimate resumption of selling activity, it was natural for him to reestablish the sales department in experienced hands. Henry Ford II was not experienced, but he chose a veteran as his sales manager, J. R. Davis, formerly western regional manager for the company.

• **Affairs Shake Down**—An authoritative viewpoint on the Ford situation today, therefore, is that affairs are shaking down into a pattern which is more likely to be strengthened than to change again, as it has in recent months because of such key resignations as those of Sorensen, the new Willys-Overland president (BW—Jun.17'44, p84); Chief Engineer L. S. Sheldrick, now a major engineering executive at General Motors; Purchasing Agent A. M. Wibel, now Nash-Kelvinator vice-president; Sales Manager H. C. Doss, now Nash-Kelvinator sales manager; and others.

Detroit newspapermen, however, will keep their eyes on Ford as they have for the past 35 years, because in the auto capital the Rouge occupies a position analogous to that of both Capitol Hill and the White House in Washington.

Plastic Pelts

Imitations of luxury furs made from unshorn sheepskins by process which also may be used on wide variety of fibers.

A new process for treating hair, wool, and other fibers may some day belie the old maxim that you can't make a silk purse out of a sow's ear. Already a treatment invented by Jose B. Calva of St. Paul, Minn., makes the pelts of common sheep almost indistinguishable from such luxury furs as beaver, seal, and nutria. For that transformation it uses shearlings (shorn sheep pelts), and in making imitations of fox and other long-haired furs, unshorn sheepskins are utilized.

• **Many Applications**—The process is equally applicable to hair, wool, silk, filaments produced from glue, gelatin, casein (hence Aralac), isinglass, protein, substances such as catgut, vegetable products or natural fibers such as hemp, manila hemp, jute, roots of the type used in the manufacture of brushes, and artificial filaments made from cellulose or cellulose hydrate. This includes the various kinds of rayon.

• **Industrial Uses**—Thus portended are Calva-processed tooth brushes, and other domestic and industrial brushes made from bristles previously considered useless, or at best of inferior quality. Bristle values depend on stiffness or rigidity, and the Calva treatment is said to increase this quality. It also can be used to treat wool fabrics and clothing to prevent skin irritations.

The fur miracle is achieved by plasticizing the pelt, so that the properties of the processed fur become those of Bakelite or Plaskon plastics, rather than those of either the original pelt, or the one it imitates. The process utilizes the fiber itself as a reagent, making use of such well-known chemical reactions as the condensation between amines (found in the fiber) and aldehydes that are commonly found in the manufacture of plastics.

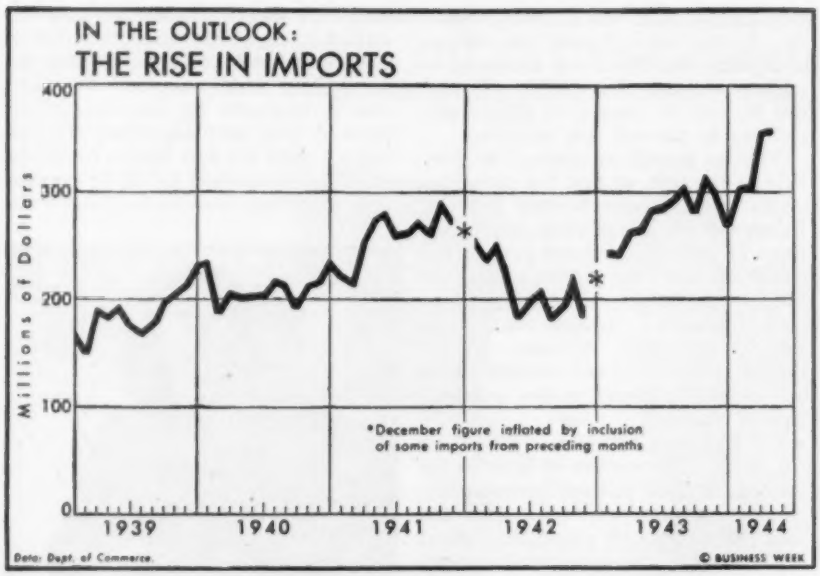
• **For Postwar Consumers**—This plastic fur, as far as the women of America are concerned, is still just another dream for which they must wait until after the war. All of current production—about 1,500 skins a day—goes into aviators' suits for the Army Air Forces or the Marine Corps.

Biggest producer is Winslow Bros. & Smith Co. of Norwood, Mass., the shearling division of Armour & Co. Master Industries, St. Paul, Minn., makes collars and other accessories for military clothing on subcontracts.

Winslow Bros. plant was opened the day before Pearl Harbor; hence never got into civilian production of the furs. And because processing equipment is not available for the duration, other big companies which have been licensed by the Calva Fur Patents Corp. of New York must delay production until postwar facilities are available.

• **Stampede in Saks**—The industry's biggest encouragement concerning the postwar reception of their plastic coats came last year. A group of pelts rejected by the Army Air Forces because they were slightly at variance with regulation color, or for some other defect, were made into coats and offered for sale by New York's Saks Fifth Ave. The store's debutante fur department was jammed after Saks advertised the collection. And the furs had to be locked up. Eager customers had to be satisfied with watching a few guarded models dis-

The before-and-after picture (below) shows ordinary tanned shearling and a like pelt after it has been plasticized into a beaver-type fur. The coat (above) is one of the few in circulation since the military is taking the entire production for aviator's clothing.



Imports rose in April and held up in May, indicating that a new high level for the war has been reached. The recent jump was almost 20%, carrying the yearly rate to about $4,300,000,000. Even these days that spells a sizable addition to the materials available for our war and civilian economies—coffee, copper, petroleum, etc. Of course, the real gain over prewar levels is not so sharp as the nearly 100% rise in dollar totals implies, since prices have soared in many cases. Nonetheless, dollars are piling up in the hands of foreigners we can't supply now but who will be postwar customers. And the current high import level—even with shipping tight and vital foreign supplies cut off by war—is a hint of what we might buy in peace at full employment, and also a helpful start on the road toward it.

play the coats until the crowd dispersed.

• **Priced at $150**—Saks priced these imitation beaver coats at around $150 at a time when most genuine beaver coats were selling for $600 to $1,000. Sales appeal of the coats according to B. H. Weiss, president of the Calva Fur Patents Corp., will rest not only on the price, but upon durability and other special qualities of the plastic. For example, the coats, being plastic, are mothproof; and the pelts are said to wear many times longer than genuine furs.

Only the beaver-like furs are being made in quantity at present. These can be made in a variety of colors. The Army Air Forces wears dark brown, the Marine color has more gray in it, and new suits being made for Gen. Henry H. Arnold and his staff are honey-beige. Postwar imitation beavers will be made with stripes to simulate the sheared beaver coats popular in recent seasons.

Volunteers who have been wearing imitation seal skin coats for two seasons send them back to Calva periodically for inspection, and the company reports that they show no signs of wear to date. If they resist wear for the duration, plasticized seal probably will be available shortly after the peace.

• **Mink Promised**—Silver fox and lynx effects already have been achieved with unsheared skins. And the Calva people predict that before many years they will have any fur that Mrs. America wants them to imitate—including mink. Although much of the effect in beaver—and nutria-type—coats is achieved by straightening the fiber, chemists say that if they straighten it, they also can curl it again; hence it will be possible to produce synthetic Persian lamb.

Calva dangles before mothers the possibility of washable fur coats for children—made from kid.

• **Calva Carpetings**—While the possibilities of the process are legion, the Calva representatives believe one of the most widespread uses will be in treating carpets. Less has been done with research on such applications than with furs, but on the simple logic that consumers seek durability in pile fabrics used for carpets, upholstery, and other household furnishings, the Calva process may find its widest acceptance in this field.

In his St. Paul laboratories, devoted exclusively to research in hair and wool, Jose Calva has worked for ten years on the process—and variations of it. He is backed by George W. Benz, St. Paul businessman and financier, who holds a third interest in the Calva patent.

• **Wool Shrinkproofed**—Calva now has patents pending on shrinkproofing of wool. The process is about ready for commercial exploitation after some years of work in which the North Star Woolen Mills Co., Minneapolis, and the Phillip Willey Co. of Boston (subsidiary of Winslow Bros. & Smith Co.) cooperated.

• **Elasticity Retained**—Calva claims that the process does not affect the normal elasticity of wool, and actually increases its tensile strength. Tests run by North Star about two years ago on cloth shrinkage showed the process had been overdone and that the wool actually stretched after being wet (by a fraction of 1%), instead of shrinking. This has been corrected, enabling consumers to expect that at least some of their postwar woolens will be shrinkproof.

At Work on 127

Piece goods regulation gets another going over, but OPA's budget plan finds no favor with textile industry.

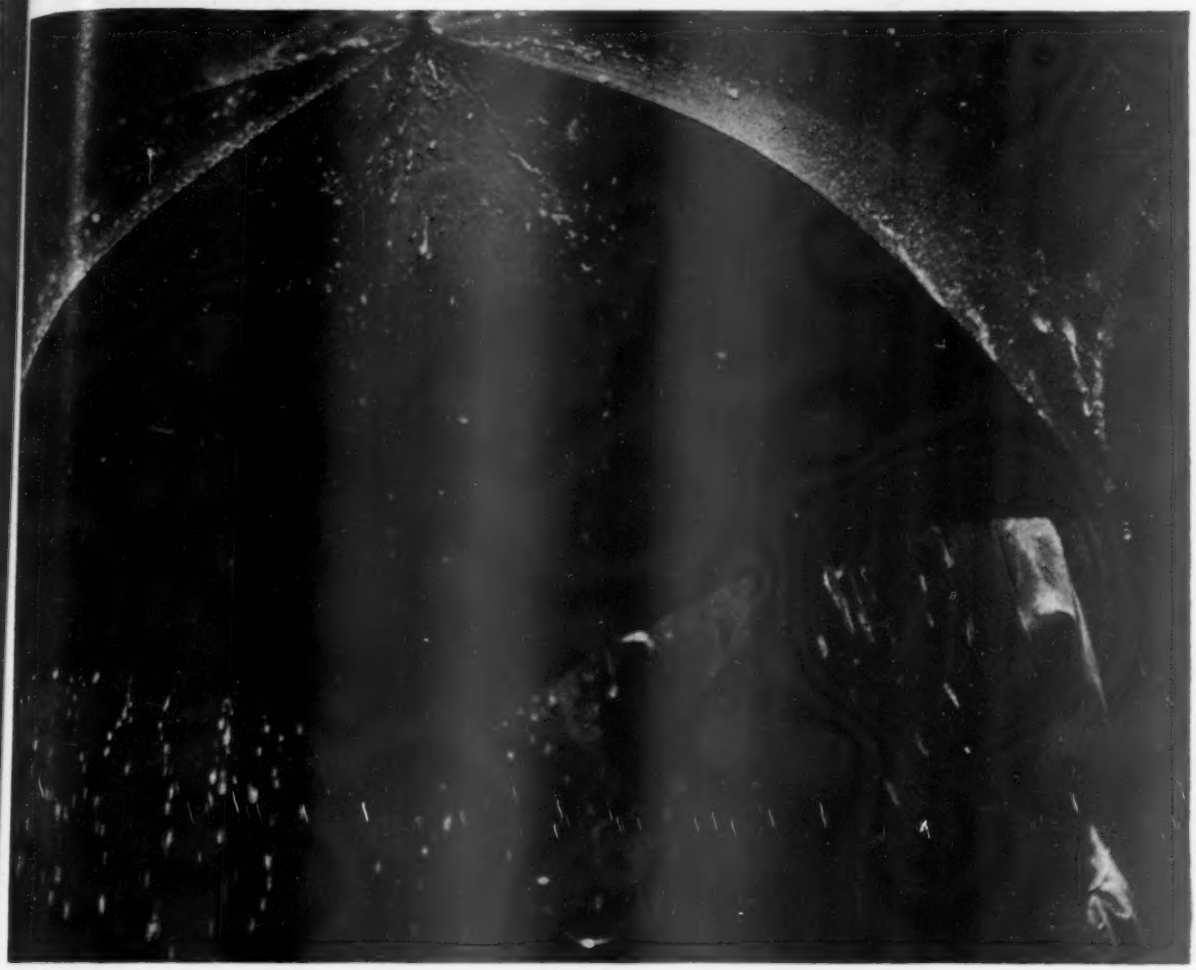
For the second time this year, OPA has rolled up its sleeves and gone to work on Maximum Price Regulation 127, which covers finished piece goods. Revision fits into Washington's broad, interagency program for increasing the supply of low-priced clothing and other textiles (BW—May13'44,p45).

• **No Mother Love**—MPR 127 is a stepchild among government regulations. Production officials damn it openly. The textile industry admits that the incentives it offers to producers of higher-priced goods have discouraged production of needed, low-end items. The best that OPA can say for it is that it seemed like a pretty good regulation at the time it was issued back in the spring of 1942.

OPA's intention at that time was to adhere to trade practices by allowing converters a larger gross margin for the more expensive finishes. This principle was written into an escalator arrangement, under which the fancier the finish, the greater the margin. The idea was to compensate converters for the greater risk involved in tying up their capital in high-priced goods.

• **Greater Profits Sought**—In a seller's market, the risks soon disappeared. It didn't take converters long to discover

"*Unforeseen events*... need not change and shape the course of man's affairs"



BUSMAN'S HOLIDAY

9:30 P. M. One more hour... four more calls to make. It's raining a mean drizzle.

Back home there's an easy chair, dry slippers and a good book. Behind him is a heavy day's work... ahead of him, another.

• • •

CHUCK RHODES, nearing sixty, is fighting for his country. He's out selling War Bonds in the 5th War Loan Drive.

He's ineligible for the fighting front, but he's taken over the important civilian work of another man who could go. And besides selling War Bonds, he's helping the Red Cross... doing and giving whatever he can, whenever he can... to the limit of his ability.

He is typical of the many thousands of insurance people, agents, brokers, employees alike, putting their whole hearts into the war effort. Whether fighting abroad, or working at home, their business is protection—of your interests, and their country's safety. Maryland Casualty Company, Baltimore.

THE MARYLAND

Practically every form of Casualty Insurance and Surety Bond, for business, industry and the home, through 10,000 agents and brokers.

How we put a "straight jacket" on a cartridge belt

This is a machine gun ammunition box tray assembly.

Inside the box a cartridge belt has been neatly folded back and forth so the ammunition will feed evenly into the gun.

The idea isn't new. Soldiers have been using ammunition boxes with their machine guns for a long time. But when it came to mounting their guns on scout cars and half-tracks, they found that jolting over rough roads and fields shook the cartridge belts out of position. Result—a jammed gun, and plenty of trouble.

Union Metal design engineers were invited by Army Ordnance to help in a solution of this troublesome problem. The result—a steel tray with a special overlapping heavy spring clamp which not only holds the box in proper position but controls the feeding of the ammunition into the gun regardless of rough roads or rocky terrain.

Small as it may seem, this new product, made practical through the craftsmanship of men who specialize in steel fabrication, will save the lives of many of our fighting men, help shorten the war. We think it's also an example of the kind of thinking, planning, and engineering that helps create and develop new and better *peacetime* products.

When war ends, the designing and fabricating skills which produced it and many, many other devices for our fighting forces will be available for the manufacture of *new* products of metal. Perhaps, then, these same skills can help make your product better, faster, cheaper. Your inquiries are invited.

THE UNION METAL MANUFACTURING COMPANY, CANTON 5, OHIO

UNION METAL

Craftsmen in Steel Fabrication

that under MPR 127 a piece of cheesecloth, flock printed to imitate a high-styled marquisette, was perfectly salable and much more profitable than plain cheesecloth (BW—Apr.22'44,p89).

Not all abuses are as flagrant as this. Before the war, a converter who bought 30,000 yd. of cotton cloth might have had 10,000 yd. printed, 10,000 yd. dyed, and 10,000 yd. bleached. Today he is likely to have the entire 30,000 yd. printed, because this offers the biggest markup.

• **Like Shooting Ducks**—OPA also regrets that converters no longer have an incentive to follow the old industry practice of chiseling the finisher. Today, the higher the finisher's price, the higher the converter's margin, and no questions asked.

In last February's revision of MPR 127, OPA managed to get at some of the more noticeable abuses. The revision took the profit out of screen printing, flock printing, and moireing of cheap fabrics by taking away the markup for these operations. But, in the words of one price official, "It's like shooting ducks with a BB gun—you knock one down and another pops up."

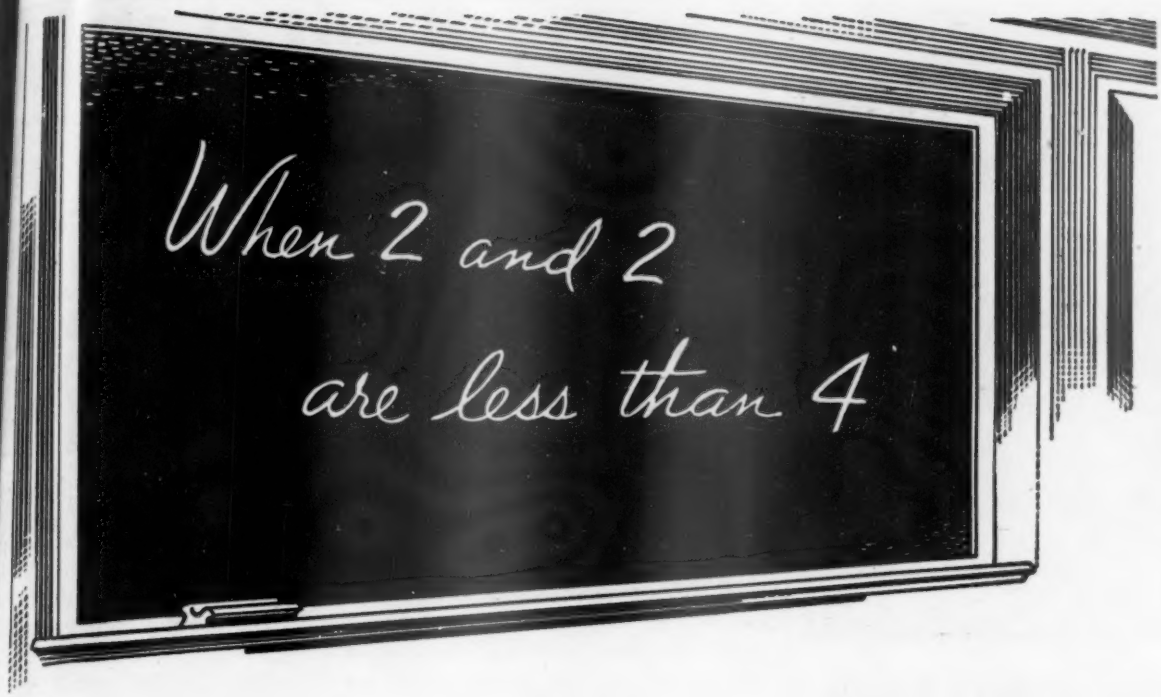
• **To Use Averages**—That is why OPA has been feeling around for a more general approach. It now looks as though this approach will take the form of what price officials call the "budget plan." The idea is to give a converter a per yard budget, based on his average finishing costs in a more normal year (probably either 1941 or 1942).

If it costs a converter 5¢ to get a yard of cloth printed, 3¢ to get it dyed, and 1½¢ to get it bleached, OPA might give him a budget of 4¢ a yard—his average finishing cost in 1941 or 1942. To hit the average on the nose, he would be forced to dye or bleach a good part of his yardage instead of printing it all.

Converters don't like the budget plan and have said so vociferously. They argue that they aren't getting the same types and quality of materials that they got a couple of years ago, that dyes have changed, and that, consequently, finishing costs can't be based on old averages.

• **Counterproposals**—To hold off the budget plan, they have countered with several proposals of their own: (1) knock out the highest percentage markups; (2) limit or abolish markups on certain extra finishes (crease-resistant, water-repellent, etc.); (3) limit converters to the same percentage of printed yardage that they turned out in a base period.

These and similar proposals have shown OPA that whether or not the budget plan is finally written into the regulation, it exerts considerable lever-



WHEN you pay $2000 for a motor car, you get a larger or finer car than $1000 will buy.

In business insurance, there are times when this principle is directly reversed. Two businesses may each be covered with $1,000,000 of insurance — yet the cost of insuring one can be half the cost of insuring the other.

The explanation is — differences in the hazards, and differences in the way the insurance is bought.

Perhaps you think nothing can be done in your case to reduce either your hazards or your premiums. You may be right, but we do not believe you can be sure unless you have recently had a thorough analysis of your insurance program by a competent independent brokerage organization, equipped with Inspection and Loss Control Departments.

Surprising differences in premium cost, scope of coverage, and collection of claims are often produced by the broker's skillful negotiation and servicing of insurance contracts. We can cite scores of case histories to prove it.

Many business executives are unfamiliar with the nature and value of the insurance broker's function — with the importance of having a trained buyer who is independent of any insurance company, and acts at all times for the insured.

To any such executive we suggest an interview with a Johnson & Higgins representative. Simply write or telephone any of our offices. There will be no obligation, and you may find that your insurance premiums can be reduced and your coverage improved through the use of our service. Strange as it may seem, this involves no additional cost to you.

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How to SAVE PAPER for America...work and worry for yourself!

BEFORE ordering business stationery and printed pieces, call in your printer. He knows how to spot the most advantageous ways to make the most of war-scarce paper, how to avoid waste

AFTER you talk to your printer, you'll understand why "It Pays to Plan with Your Printer." His cogent advice costs you nothing, yet injects plenty of zip into letterheads, envelopes, business forms, booklets and folders. And valuable continuity!

ALWAYS specify Nekoosa Bond. Printers everywhere recommend it because it's Pre-tested to assure faultless performance.

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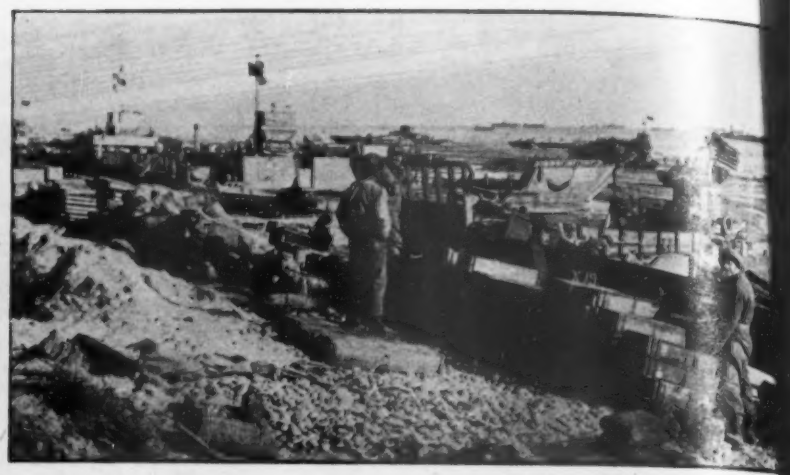
Paper is a vital war material. To save paper, to save money, now more than ever . . . .

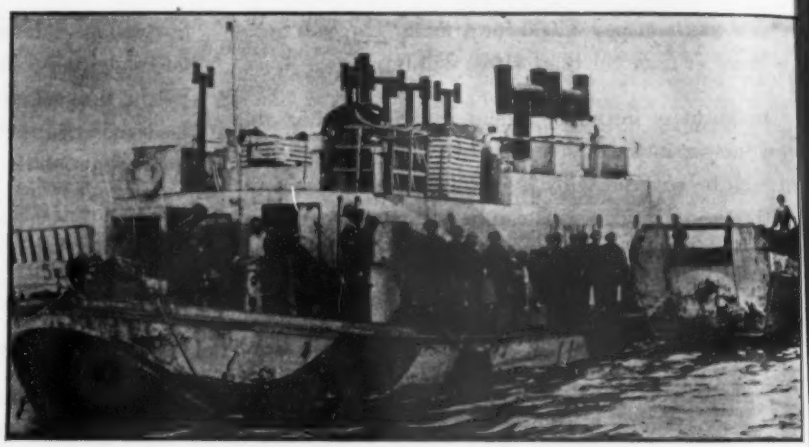
IT PAYS TO PLAN WITH YOUR PRINTER
Nekoosa Bond

One of the Pre-Tested Business Papers manufactured by the Nekoosa-Edwards Paper Company, Port Edwards, Wisconsin. Companion papers are JOHN EDWARDS BOND, NEKOOSA MIMEO BOND, NEKOOSA DUPLICATOR BOND *and* NEKOOSA LEDGER.



WITHOUT A HITCH

Running like oiled clockwork, the immense task of ferrying countless items to the invaders makes its bid as the miracle supply job of the war. Along the entire stretch of invasion beach a never-ending stream of supplies—unloaded from small boats—piles up (above) for distribution, and will continue to be so handled until a major French port has been freed and put in shape for regular traffic. And to symbolize the detailed planning is the floating mess galley (below)—once a Thames River barge—which doles out hot meals to the weary crews of the small ferry craft.



age on the industry. OPA already is considering one concession: use of 1942, instead of 1941, as a base year for determining average finishing costs.

Bargaining time will be cut short by the fact that OPA (prodded by Fred M. Vinson, Economic Stabilization Director) wants to see quick results in textiles.

• **Program Announced**—Meanwhile, the joint OPA-WPB program for producing some 10,000,000 units of women's semistandardized house dresses, men's shirts, men's shorts, and women's cotton slips at low dollar-and-cents ceiling prices, was announced by both agencies this week. Officials are afraid that when it gets going, the program will be a disappointment to consumers who have been led to expect much.

These pessimists point out that the program covers only about 10% of the total production of these four items—not a very big drop in the bucket of consumer demand. While construction and price will be better controlled than in the past, fabrics will still be pretty sleazy—and will not be guaranteed against shrinkage.

Men's shorts, for example, will be made of 56x64 cotton cloth. OPA's standardizers have been asking for better materials—and they are backed by such consumer organizations as the American Home Economics Assn., which are now saying that consumers can do with less if it is of better quality.

• **Labor Angle**—Nobody knows yet how much WPB's new urgency rating program for the cotton textile industry will

This is the Heart of Uncle Sam's Synthetic Rubber Tree!

INSTALLATION DESIGN BY
BLAW-KNOX COMPANY

CONFIDENTIALLY, we're as pleased as punch about this panel of Taylor Single duty bi-recording temperature controllers with Pre-Act and automatic-to-manual bypass. It's the most vital part of the critical reactor set-up at the new Port Neches copolymer plant. This Taylor control system has been made standard in all synthetic rubber plants for this process as a result of Taylor's pioneering in the first pilot plants.

But we're equally proud of all the other Taylor Control Systems now helping to make synthetic rubber from butadiene and styrene to the finished tires.

If you could visit the Port Neches project, you'd see:

Taylor Liquid Level Controllers, Buoyancy and Ball Float types.
Taylor Fulscope Recording Controllers, some equipped with . . .
Taylor Pneumatic Set, some with . . .
Taylor Pre-Act, some with the new . . .
Four-Position Automatic-to-Manual Bypass.
Motosteel Diaphragm Valves with new improved Precisors.
Motosteel Diaphragm Motors on steam-driven compressors.
Dial Indicating Thermometers.
Recording Pressure Gauges.
Taylor Accuratus Tubing, compensated for ambient temperatures, on mercury-actuated Temperature Recorders and Controllers.

What are *your* process control problems? Our Field Engineers are ready, willing and able to help solve them. Taylor Instrument Companies, Rochester, N.Y., and Toronto, Canada.

ARMY E NAVY

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

BUY AN EXTRA WAR BOND TODAY!

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For Unusually Large, High Precision Bearings

BALL and ROLLER BEARINGS

Standard and Special

FROM 6" INSIDE DIAMETER TO 100" OUTSIDE DIAMETER
COMMERCIAL FINISH OR ULTRA-PRECISION

Spherical Roller Bearings
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Straight or Self-aligning . Extra Heavy Duty or Special Light Type

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★ *Early Delivery* ★

PRECISION MACHINE WORK OR GRINDING

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For excellence in production of extremely precise, unusually large ball and roller bearings

THE KAYDON ENGINEERING CORP.

McCRACKEN STREET • MUSKEGON, MICH.

New in Name . . . Old in Experience

help in stepping up production of end items. Principal object of the gram is to channel manpower refer by the War Manpower Commiss The major cotton textile products assigned ratings from 10 to 0. most urgent military and civilian grams, including many low-end ite get the highest ratings.

Chief hitch in the program, skep say, is that it is entirely voluntary. cal manpower priority committees asked to be guided by it—but they are forced to.

Petrillo Says "No"

And NWLB is expecte to have a tough time enforcin its order that his musicians re turn to record making.

The National War Labor Board ha issued an order in the Petrillo ca which it is going to have a tough tim enforcing.

• **Thumbs Down**—Under its decision i the dispute between James C. Petrillo' American Federation of Musician (A.F.L.) and three recording and trans cription companies (BW—Mar.18'44 p107), the musicians were directed t resume making records and transcrip tions, to end a ban dating back to Aug 1, 1942, while the controversy over roy alty payments is negotiated or arbi trated.

Petrillo promptly rejected NWLB's offer, stating that his men would go back to work only after the companies agreed to pay royalties on each recording made into the union's unemployment fund.

• **Green May Step In**—Adopting Mont gomery Ward's line, Petrillo added that NWLB had no jurisdiction over the dispute since the war effort was not in volved. Petrillo has always contended that the wrangle was neither a labor dis pute nor a strike.

Only prospect of a break in the stale mate, short of surrender by the recording companies to Petrillo's demand, is that NWLB might get help from William Green, A.F.L. president, to persuade Petrillo to give in, to protect NWLB's prestige.

Still under Petrillo's ban are the Na tional Broadcasting Co.'s radio record ing division, Columbia Recording Corp., and the RCA Victor Division of the Radio Corp. of America.

• **Not a Wage Increase**—During the months the dispute was pending before NWLB, Petrillo succeeded in signing royalty agreements with more than 80 companies, headed by Decca (BW—Sep.25'43,p100), permitting them to re-

"Caribbean Sugar Harvest," by Clarence Holbrook Carter

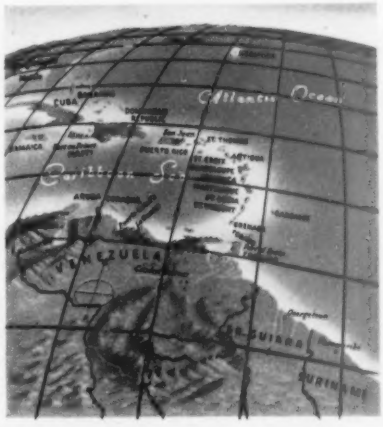
They're Harvesting Dollars...to Buy U.S.A. Products

Mr. Manufacturer: Are you trying to plan ahead, so that you can maintain production and employment, when war orders terminate?

Here is a nearby market, waiting for your postwar merchandise. It can absorb half a billion dollars' worth of goods annually. It lies close-to-home, in the friendly Caribbean Islands, Venezuela and the Guianas.

Among other things, this area is one of the world's Sugar Bowls. Sugar cane and its products put dollars in the pockets of workers in fields and refineries, in the purses of plantation owners, tradesmen and thousands more. These millions will be used to buy textiles, appliances, foods, machinery, automobiles . . . and practically *everything* people want and need.

In our years of serving the people in this area we have learned the things they want. We know the experienced agents there, men who are as eager as you to develop sales. We invite manufacturers to write for figures and facts pertaining to this postwar market for *their* products. Write Dept. B, Alcoa Steamship Co., Inc., 17 Battery Place, New York 4, N. Y.



Alcoa

ALCOA STEAMSHIP COMPANY, INC.

OFFICES IN BALTIMORE, CHICAGO, MOBILE, MONTREAL, NEW ORLEANS, NEW YORK, NORFOLK, SAN FRANCISCO

Without Sulphuric Acid there would be a sudden cessation of thousands of activities . . . from the bombing of Berlin to the purification of your drinking water.

The Davison Sulphuric Acid Plant is one of the largest in the world and its product is the "mainspring" for operations in many fields. Davison Sulphuric Acid derivatives make the casting of magnesium feasible, grow food for your table, protect shipments against rust, act as catalysts in the production of synthetic rubber and high octane gasoline, and are essential in the manufacture of explosives.

Sulphuric Acid . . . one of the many Davison chemical products . . . may not be glamorous . . . nor dramatic . . . but it is *indispensable* in war and in peace.

THE DAVISON CHEMICAL CORPORATION

BALTIMORE 3, MARYLAND

Progress through Chemistry

manufacture of new recordings. NWLB decided that these contracts did not need approval on the ground that payment of royalities into a fund does not involve a wage increase covered by the stabilization act.

Time Limits Set—In addition to ordering Petrillo back to work, the board specified:

(1) The parties are given 15 days to bargain for the amount of payments—to go into escrow, pending a final settlement. If no agreement is reached, the parties are to report their separate proposals back to the board.

(2) The board will then fix the amount of payments and order them made—into escrow.

(3) The parties then will get 30 days to bargain on how the escrow fund is to be distributed—by whom, to whom, for what purpose, and how long.

(4) In the absence of agreement, they will have an additional ten days to try to agree on an arbitration board.

(5) If no agreement is reached on the makeup of an arbitration board, NWLB will appoint such a board and outline the specific points to be settled.

Reverses Panel—NWLB's decision ran contrary to the March report of its panel headed by Arthur S. Meyer which held that the union's demands that record and transcription makers contribute to the A.F.M.'s employment fund could not be justified.

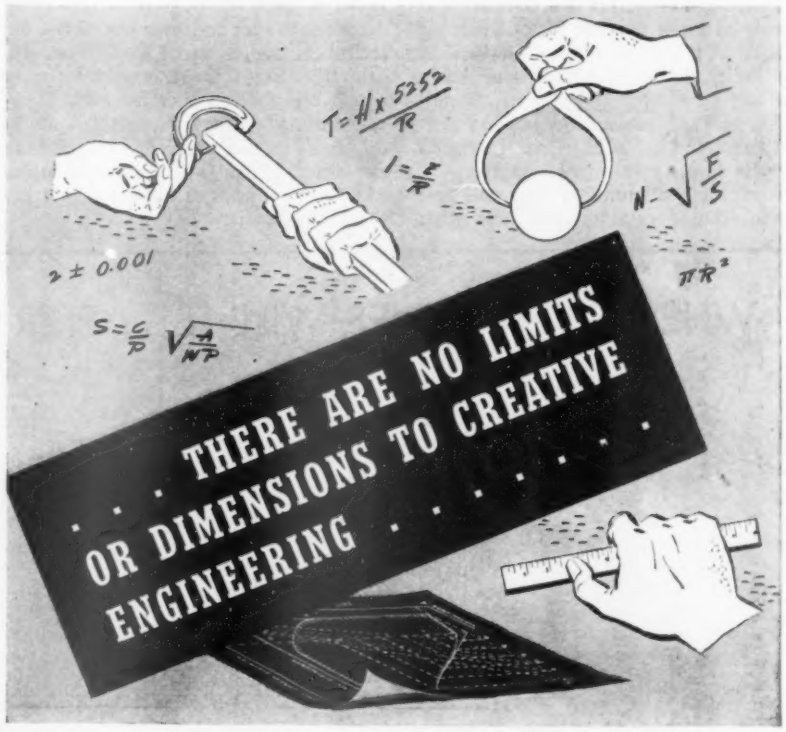
Maps World Sky

CAB charts a global net of postwar air routes for U. S. lines—but not without consulting Allies and official Washington.

Controversy over the Civil Aeronautics Board's specific location of U. S. flag foreign service air routes is expected only by those who do not know that the proposal was checked in detail with Britain and Russia, and with the State, War, and Navy departments and congressional committees in Washington. Of course, new elements could enter the picture and a dispute could start at home or abroad.

Tentative Map—CAB Chairman L. Welch Pogue said at his full-dress press conference, with the other four members benched beside him, that his postwar American air commerce map of the world was tentative. In an international sense, it is tentative only because touchy Allied war leaders had to be humored on political and strategic matters. The program is based on a year-long study of prospective U. S. world air commerce.

This American global network is only part of the total picture. On top of it

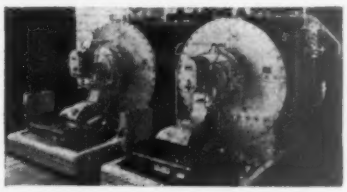


CREATIVE engineering—the ability to project an entirely new concept of a machine and its performance—looks beyond existing limits, sets no "dimensions" on its thinking.

Cleaver-Brooks engineers are not fettered by tradition—their creative spirit is never chained by the static attitude of "it's always been done this way." If we have any tradition at all it is simply that a better machine, or a new machine, can always be designed and built that will do more work—better and faster.

We have broken many precedents in the field of heat generation and utilization. Steam generators of our make, for example, are recognized for unusually high efficiency plus extraordinary capacity—all in one, compact "package." The military services find important advantages in the portable equipment we build for them—water distilling units, sterilizers, disinfectors and steam generators in service at bases at home and abroad.

Product research and development in an atmosphere of free creative engineering is a continuous activity at Cleaver-Brooks dating far back into the prewar period. Postwar planning does not need to take into account any conversion problem in this regard at Cleaver-Brooks.



Cleaver-Brooks oil-fired steam generator of the type in service in scores of industrial plants and military bases at home and abroad.

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★ CLEAVER-BROOKS PRODUCTS INCLUDE: ★

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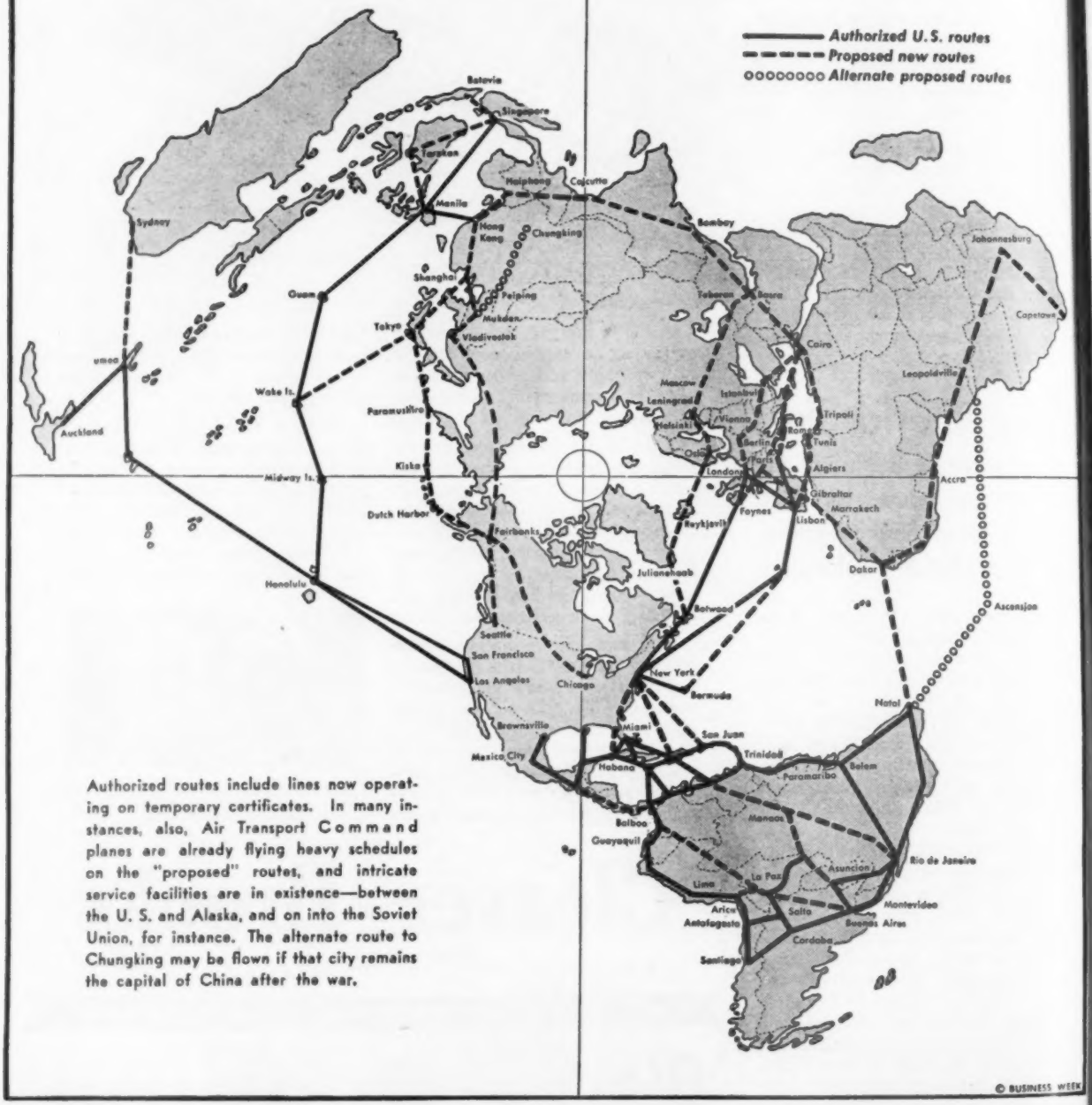
will be superimposed the air systems of Britain, Russia, the Netherlands, Italy, China, and others. It is a safe bet that plenty of room was left for our two big Allies. All authoritative utterances so far indicate that Germany and Japan will not be allowed to build any aircraft at all, or to operate airlines beyond their borders. At least such is the intention for the immediate postwar years.

• **Reciprocity Planned**—Pogue said that traffic allowances were made for other national services which must be admitted to this country in exchange for rights of entry for U. S. lines into other countries, under continuation of the old reciprocal rights procedure. Theoretically the State Dept. would have to admit one foreign line for each U. S. entry abroad. But because this country originates far more travel and cargo than any other, a plan is under consideration to trade on a basis of trip for trip rather than line for line.

The program is less tentative in nationally than it is domestically. Abo 100 U. S. applicants for foreign ro permits, including operators of airlin railroads, steamships, and some am tious speculators, are told by the bo that its proposed route pattern will n prejudice the cases of those whose p jected lines do not integrate with t map. Furthermore, the board says, will consider open-mindedly any ne off-pattern route proposals. Many o

WHERE U. S. PLANES WILL FLY AFTER THE WAR



Authorized routes include lines now operating on temporary certificates. In many instances, also, Air Transport Command planes are already flying heavy schedules on the "proposed" routes, and intricate service facilities are in existence—between the U. S. and Alaska, and on into the Soviet Union, for instance. The alternate route to Chungking may be flown if that city remains the capital of China after the war.

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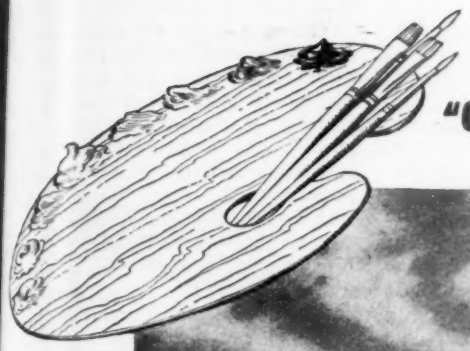
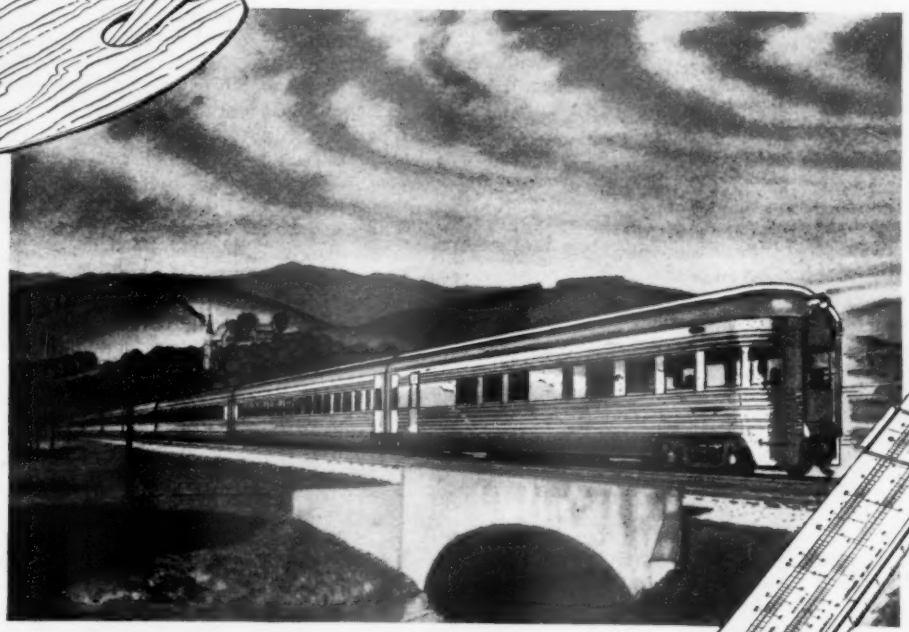
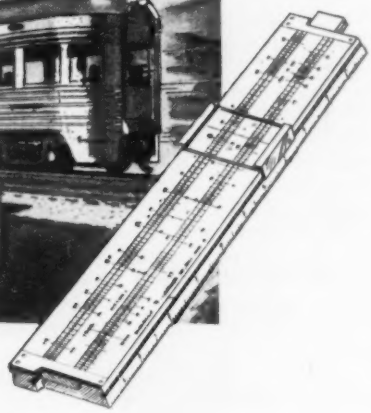


"Comfort and Beauty" says the Palette





"Strength and Safety" says the Slide Rule

IT is pleasant to step aboard a train and find yourself in the smart, colorful atmosphere of good decoration, of well-designed furniture, of a gracious living place created for your comfort. For the need of beauty is inherent in us—should not be left behind upon the platform . . . yet beauty alone is not enough. Beneath it must be structural strength of tough, durable metal, expertly engineered; strength born of purpose never to compromise where your safety is concerned. Strength, smooth riding, beauty—these inseparables create true comfort.

Ours is the duty to examine ideas—decorative ideas, mechanical ideas—to keep only those that are improvements. Pullman-Standard's research must explore many fields: metals and their fabrication; electronics, air conditioning, sound-deadening, smoother and quieter riding qualities, seating and illumination, colors and the creation of interesting patterns and a well-nigh endless list of problems—everyone concerned directly with your comfort.

Pullman-Standard is a part of America's war industry today, but is planning for the re-employment of the returning soldier in creating these finer lightweight trains which will embody countless virile ideas refined in our war production laboratory; trains far more comfortable than any that have gone before. Comfort and beauty, strength and safety. We are ready.

Buying War Bonds—and keeping them—helps prevent inflation!

In addition to passenger cars, Pullman-Standard designs and manufactures freight cars of all types, subway, elevated and street cars, trackless trolleys, car wheels and other railroad equipment.

PULLMAN-STANDARD
CAR MANUFACTURING COMPANY
CHICAGO, ILLINOIS
Builders of America's First Modern Streamlined Train

Offices in seven cities . . . Manufacturing plants in six cities

©1944, P.S.C.M. Co.

pattern applicants already on record nevertheless are preparing amendments that will put them right.

• **Lack Entry Rights**—Many of the countries traversed by new routes proposed in the board's program have not granted rights of entry to the United States. Chances are that the State Dept. feels certain of getting the rights, but the air board politely says that it will go around any sovereignty that doesn't want to admit us.

Even when hearings are held on applications in hand—groups of them will be consolidated for efficiency—many places to be reached by the new airlines may still be in combat zones which cannot be entered by civilian aviation. And there will be no equipment available until several months of peace have been devoted to the conversion of four-engine planes which can fly long water hops. The two-engined transports now in service are not suitable for the job.

• **Foxy Game**—The board's airline map is the first showdown of cards in a long and foxy international game. It is big league politics. CAB furnished a lot of advice but took a lot more from the Administration. Secretary of State Cordell Hull and President Roosevelt knew just what the board was going to say.

That is why the board left some important things unsaid. There was no mention of any choice between the three types of foreign services proposed by wrangling adversaries: (1) a semi-federal, "chosen-instrument," single-management system; (2) a privately owned corporation in which any number of domestic airlines and perhaps other interests would participate through stock ownership; (3) "free and open" competition (BW—Feb.19'44, p46). Leading advocates of these three proposals are, respectively: Pan American Airways, which hopes to be the nucleus of such a system; United Air Lines, which contends that free competition will end in bankruptcy for most participants; and the famous "16 airlines" (now 17 by recruitment of American Export Airlines) which have an airlines committee on U. S. aviation policy at work for their cause in Washington.

• **Map Fits All**—Pogue said that it was not the board's province to advocate one or another of the three plans. And he added that the route-mapping work just finished will fit any one of them.

Another matter not touched upon by the board is existing landing agreements between this and other governments and between Pan American Airways and other governments. Continuation, amendment, extension, and cancellation of these agreements is up to the State Dept., and in some cases the job will be like disarming a time bomb. It is the policy of this government, announced last year, for the State Dept. to negotiate air rights with other countries. The certification of routes under those rights is the business of the Civil Aeronautics Board.

• **Foreign Bases?**—Other questions not affected by the board's action are the ownership and use of air bases built around the world by this country on foreign soil, mostly owned by the British; right of innocent passage of aircraft of one country through the air over another; and cabotage, the movement of passengers and cargo between two points in a given country by a shipline or airline of another country.

The airlines policy committee recently charged that two or three senators and other government officials had prevented the board from carrying out its obligation, under the law, to expedite hearings on foreign applications. The allegation was that the Civil Aeronautics Act, which calls for earliest possible hearings on all applications, had been improperly suspended, awaiting executive and legislative development of foreign air policy.

• **Fast As Possible**—Spokesmen for the board said it is getting around to the hearings as fast as possible; and even if that were not true, many provisions of many laws are suspended under war powers. They said that, although landing rights and equipment are not available, the need of prospective operators to know their futures is appreciated. Members of the policy committee feel that they smoked the board out a few weeks ahead of schedule.

Robots Are Wild

Inaccuracy and high cost of flying torpedoes make them an expensive luxury. They're vulnerable to the ack-ack.

News of the use by the Germans of flying torpedoes to bomb England came as a shock to the newspaper reading public, but not to our military strategists, and a select group of technicians who have been working on similar projects in this country (BW—Oct.2'43, p19).

Although for security reasons little can be said now about our controlled missiles, it is generally known that Army Air Forces engineers were working on radio-controlled airplanes at Wright Field many years ago.

• **No Radio Control**—The German weapon is not radio controlled, but is an aerial torpedo with a wing span of about 16 ft. and a length of 25 ft. 4½-in. The propulsion device is a jet engine which makes use of rockets for the take

The wing is virtually a stub providi more directional stability than lift. T speed ranges from 225 m.p.h. to 4 m.p.h. It is launched from a trac Because of the absence of a huma pilot, a very high acceleration can b used in launching. Since the missil probably cost several thousand dolla each and blow up on impact or at th end of their course, their use is an e pensive luxury. And their accuracy nothing to excite a ballistics exper At a distance of 50 miles or so, th best that can be expected of them that they will hit something within five-mile circle. The launching device are difficult to conceal and should b comparatively easy to liquidate.

• **Antidote**—The predetermined cours and the necessity of flying low to avoi radar detection make the aerial torpe does vulnerable to machine guns an antiaircraft armament. A clear whit light in the tail, which is essential in th type of device, destroys its night-tim concealment.

In final analysis, the effectiveness o the device depends chiefly upon the abi ity of the Germans to produce it in hug quantities; this can be controlled t some extent by Allied bombardment o the factories where it is being produced the launching stations, and the transpor tation lines connecting them.

• **Prewar Development**—In England th principles of radio control were embod ied in the "Queen Bee" before the war Early in the war this work in the United States and in the United Kingdom wa accelerated to develop suitable offensiv weapons for our armed forces and t develop tactical antidotes for similar de vices known to be under development b the enemy.

Although tactically useful for sur prise attacks, the weakness inherent i radio-controlled devices is their compara tively short range and the ease with which the controlling radio waves may be jammed or interrupted as a counter measure. Ways already have been found to offset the usefulness of radar as a detection device. The radio-controlled tanks tried recently by the Germans in Italy suffered in effectiveness partly for this reason.

• **The Future**—Scientific achievement will not remain stalled at this stage of development and electronic devices are continuing to approach the ability of the human brain. A robot that could literally see its way to the target is not inconceivable.

Chief consolation for the preservation of the human race is that science is international and if research is properly encouraged we can still do as well as our enemies in the creation of new weapons and new antidotes for them.

Where even Sheep can Sleep!

"I've found it at last! A place where a sheep can sleep . . . like a lamb.

"Remember how *you* humans used to count *us* sheep? So, of course, *we* had to stay up.

"But no longer. Here we all drop off into air conditioned dreamland.

"Someday, you and a heat wave will come to Washington, D. C., together. But don't worry!

"The heat wave will stop *outside* the Hotel Statler. And you'll step *inside* . . . to comfort."

How is it done? Let's ask F. A. McKowne, President of the Hotels Statler Company . . .

"The air conditioning system that we selected enables *each* guest to choose . . . by dialing in his own room . . . whatever 'indoor climate' he *individually* prefers.

"The Carrier Conduit Weathermaster System makes this possible," continues Mr. McKowne. "Important, too, the new type of installation enabled us to provide two additional floors of greatly needed space."

Thirty-three years ago, when Dr. Carrier founded the science of air conditioning, he had a vision of better living for everyone.

Today that vision has taken practical shape. For example: In the nation's capital alone, Carrier has air conditioned *more than two hundred major structures!*

CARRIER CORPORATION • Syracuse, New York

After Victory, you can have "climate as you like it" . . . in your own office or home. A new Carrier Room Air Conditioner will be ready for you then.

AIR CONDITIONING **Carrier** REFRIGERATION

ABSENTEEISM in the making

Can this happen in your plant?

Improper handling of materials is the largest single cause of industrial accidents—representing 25% of the total. Injuries from these accidents result in more than 5 million working days lost annually. Translated in terms of production, this becomes a staggering waste—seriously retarding our war program . . . *Most of these accidents are the result of heavy lifting, overloading hand Trucks, careless stacking etc., which could be eliminated by the proper use of power industrial trucks.* Compare, for example, the ease with which a Baker Truck, with a single operator, performs the same job illustrated above—which exposes two men to unnecessary hazards.

The Baker Material Handling Engineer is prepared to help you remove these dangers from your plant.

BAKER INDUSTRIAL TRUCK DIVISION *of the Baker-Raulang Company*
2164 WEST 25th STREET • • • CLEVELAND, OHIO
In Canada—Railway and Power Engineering Corporation, Ltd.

Baker INDUSTRIAL TRUCKS

Tax Bill Shared

Low-rent public housing will make uniform payments to localities in lieu of taxes for municipal services.

Low-rent public housing projects will bear more of the tax burden of the local ities in which they are located under a new and uniform policy worked out by the Federal Public Housing Authority.

Voluntary payments equal to 10% of the shelter rent (utility charges are not included) will be paid in the future to 182 communities in lieu of taxes from which the projects are now exempt. Previously, payments were generally 5%. Federally owned war housing projects are not included, since their payments toward municipal expenses already approximate full taxes.

• **Increase of $715,000**—On the basis of shelter rent collected last year, 284 local housing projects containing 89,240 dwelling accommodations would increase their payments by $715,000.

Under the federal housing act, FPHA is authorized to make annual subsidy payments to help make up the difference between operation costs of public housing projects and the rental that low-income tenants can pay, provided local communities make annual contributions equal to not less than 20% of the federal contribution. All municipalities make their annual contributions in the form of tax exemptions.

• **Groups Consulted**—The new policy was adopted after study and consultations with representatives of the National Assn. of Housing Officials, the National Public Housing Conference, the Municipal Finance Officers' Assn., the Institute of Municipal Law Officers, the U. S. Conference of Mayors, and other groups.

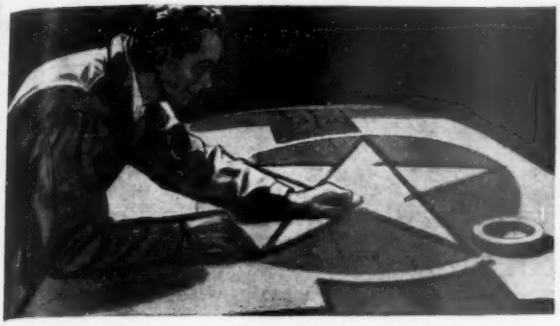
Bombshell No. 2

Philadelphia has second major war contract cutback in a month, putting 9,000 plane workers on hiring lists.

Coming as a bombshell after Brewster Aeronautical Corp. lost its Navy fighter plane contract (BW—May27'44, p31), the second major war contract cutback in Philadelphia within a month has placed 9,000 aircraft employees on the hiring list following cancellation of all but 26 of 800 stainless steel cargo planes being built for the services by

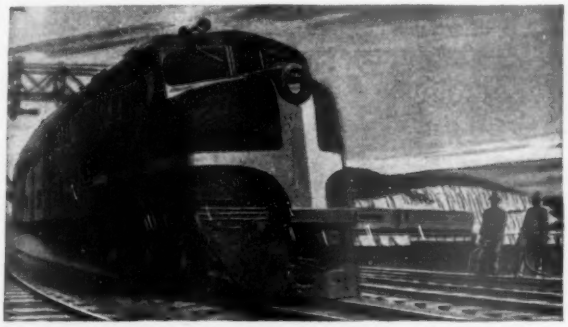
Do you know...?

Quiz on wartime short-cuts useful for peacetime production—No. 2



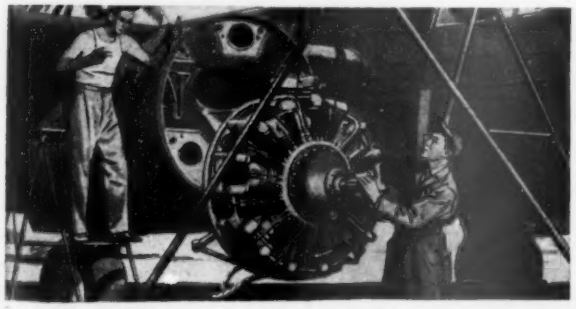
Q. Recognition symbols on planes are usually applied with:
☐ Paint Brush ☐ Spray Gun ☐ Roller

A. Symbols are first masked with paper masking tape—then painted on with a spray gun. Because it sticks at a touch, strips off clean and leaves a sharp, straight edge, Permacel masking tape is also used in painting airplane engines, mobile equipment, radio cabinets and hundreds of other items of wartime equipment.



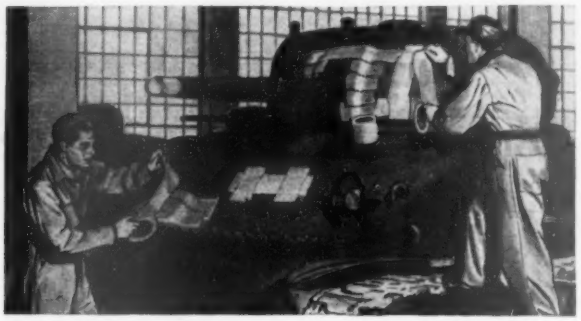
Q. What part will color play in streamlined trains of tomorrow?
☐ Speed ☐ Decoration ☐ Insulation

A. Decoration. Modern railroad designers are turning more and more to bright colors to give beauty and individuality to exteriors and interiors of railway cars and locomotives. Tomorrow, as today, jobs calling for two or more tones can be finished more quickly, neatly, economically, with Permacel paper masking tape.



Q. Airplane fuel lines are identified with:
☐ String ☐ Colored tape ☐ Tags

A. Permacel's companion, Texcel cellophane tape, in a variety of colors, speeds identification and repair of battle-damaged fuel lines, oxygen lines and cables. Indispensable for industrial uses, this quick-sticking, durable cellophane tape will also find many applications on post-war packaged products.



Q. Guess how much tape is put on a medium tank shipped overseas.
☐ 10 square yards ☐ 15 square yards ☐ 60 square yards

A. About 60 square yards of Permacel moisture-proof cloth tape (Utilitape) go on a medium tank shipped overseas—to protect vital parts against corrosion. After the war, Permacel moisture-proof tape will help open new world markets for manufacturers whose products must be able to stand overseas shipment.

Q. After the ring is pulled, a hand grenade explodes in about:
☐ 4 seconds ☐ 8 seconds ☐ 10 seconds

A. Four seconds. To insure uniformity of fuse-burning time in hand grenades, a special Permacel metal tape (Metacel) is used to seal moisture out of the fuse chambers. When the war is over, this amazing tape will be equally at home as a product-sealer or as an indoor aerial under your rug.

Q. Which of these types of pressure-sensitive tapes can help speed and improve *your* production?
☐ Paper ☐ Cloth ☐ Cellophane ☐ Metal ☐ Glass

A. All of these types of Permacel tapes are today used in war production. Many war uses will prove helpful in your business when you return to post-war work. Meantime, our research laboratory facilities are available to you for development of special tapes to fit war or post-war needs.

Permacel
INDUSTRIAL TAPES
INDUSTRIAL TAPE CORPORATION
New Brunswick, N. J. Makers of Texcel Tape

Do you think Confusion is Here to Stay?

The above question was asked of a national cross-section of Office Managers. Ninety-seven per cent replied, "Looks that way, Bud." The others merely groaned and said, "Go away!" Now, we sympathize with office managers whose wartime problems are complicated by lack of space and proper equipment. But, for all the harried brotherhood there's hope . . . in the person of—

ART METAL'S
"MR. EXPEDITER, O. D."

He's not called "O.D."—Doctor of Offices—for nothing. No, gentlemen, the title was conferred upon him because of his ability to save time, money and effort through efficient office layout systems. Right now, he's somewhat handicapped because so much of the equipment he would recommend is unobtainable. However, he *still* knows many a trick to make present equipment work harder and better.

And when it comes to planning offices for postwar, Art Metal's Mr. Expediter is the man you most need to consult! But ask him in now—to help also with today's problems. No obligation. You'll be interested in his book "Office Planning". Simply call your Art Metal branch or dealer, or write Art Metal Construction Co., Jamestown, N. Y.

Makers of

ART METAL STEEL OFFICE EQUIPMENT **POSTINDEX VISIBLE RECORDS**

***WABASH FILING SUPPLIES**

*a subsidiary company

BALTIMORE CINCINNATI HARTFORD PHILADELPHIA
BOSTON CLEVELAND LOS ANGELES PITTSBURGH
CHICAGO DETROIT NEW YORK WASHINGTON

Wabash Filing Supplies Inc.

Art Metal
Jamestown, New York
U.S.A.

POSTINDEX

SYSTEMATIZED EQUIPMENT AND RECORDS FOR BUSINESS

Edward G. Budd Mfg. Co. (BW—Jun. 17'44,p10).

• **Production Lags**—Budd was notified of the cutback on June 6, only three weeks after the Navy had allowed public announcement of the Conestoga cargo plane (BW—May20'44,p18).

Conestoga production has lagged seriously. Only four planes were reported to have been accepted by the Navy, which had ordered 200, and none of the Army's 600 had been turned over. Need for the plane, as yet untried in actual service, has decreased, and Navy will buy the lower-cost Douglas transport, now available from large-scale production for the Army.

• **May Get Shell Contract**—Budd, which holds other war contracts, employs about 15,000 workers. Since the company is acknowledged to have the know-how on shell manufacture from previous orders on smaller types, the War Production Board is considering plans for turning to the company contracts for heavy shells, either 8 in. or 240 mm., or both.

Anticipating these contracts, Budd has announced it will start retooling immediately, since it has surplus plane parts on hand. The company predicts that shells could be turned out in two weeks while it would be possible to

LITTLE DETROIT

In the steaming jungles of New Guinea the Army boasts the only assembly line for autos and trucks within thousands of miles. There battle damage and effects of torturous runs over rugged trails are repaired by latest methods. Dubbed Little Detroit by soldiers at the unique maintenance depot, these shops have renovated some 5,500 military vehicles thus far.

The *perfect combination*

THEY'VE stalked the enemy in his own waters . . . waited days for the prize, every minute tense with danger. At last the target has been sighted, its range, speed and course determined . . . the torpedo is on its way.

And now, more than 1,300 precision parts must function perfectly to steer the deadly charge to the target. The terrific blast against the enemy hull celebrates the courage of the heroes of the submarine service . . . and the perfect combination of American creative genius and craftsmanship.

In less spectacular but also important roles, this combination is at work for thousands of products essential in war and peace. As its share in peak production and high standards of many of them, Columbia supplies its customers with chemicals which always conform to exacting specifications.

COLUMBIA CHEMICALS

PITTSBURGH PLATE GLASS COMPANY
COLUMBIA CHEMICAL DIVISION
GRANT BUILDING • PITTSBURGH 19, PA.

CHICAGO • • • BOSTON • • • ST. LOUIS • • • PITTSBURGH • • • NEW YORK • • • CINCINNATI
CLEVELAND • • • MINNEAPOLIS • • • PHILADELPHIA • • • CHARLOTTE

COLUMBIA SPOTLIGHT

WATER, WATER—a veritable lake of it is required for the daily operation of Columbia plants. Visualize a body of water one mile long, over 500 feet wide and 10 feet deep. Within 24 hours it would be drained completely dry in order to keep Columbia plants in average production.

A THIRSTY CHEMICAL is Columbia Calcium Chloride. Its nature causes it to dissolve itself when exposed to relative humidities above 30-35%. Because of this, a fast-growing use is its employment as an economical dehumidifying agent in basements and other storage areas where dampness must be overcome. Its effectiveness can be gauged by the absorption capacities of one pound of 77-80% Calcium Chloride. At a relative humidity of 70, it absorbs two pounds of water . . . at a relative humidity of 90, it absorbs five pounds of water—or five times its own weight!

TOUGH GOING! In drilling the shafts for Columbia's limestone mine at Barberton, Ohio, 22.6 pounds of dynamite were required for each foot. As the total depth of the two shafts is 4,581 feet, approximately 52 tons of dynamite were used in preparing the way for what is now the world's deepest limestone mine—2,323 feet.

ONLY A V-MAIL letter is always certain to reach its destination overseas. For if the plane carrying your letter is lost, a record of its mail cargo quickly leads to the dispatch of a duplicate copy. Use V-Mail for fast, sure service . . . and to conserve valuable cargo space. One cargo plane can carry 400,000 V-Mail letters. 112 planes are required to transport the same number of standard size letters—an important factor in the handling of 34,000,000 pieces of overseas mail *each week!* And remember—V-Mail is the *only* mail that *always* flies.

COLUMBIA CHEMICALS include Soda Ash, Caustic Soda, Sodium Bicarbonate, Liquid Chlorine, Silene EF (Hydrated Calcium Silicate), Calcium Chloride, Soda Briquettes, Modified Sodas, Caustic Ash, Phosflake, Calcene T (Precipitated Calcium Carbonate), and Calcium Hypochlorite.

BACK OF EVERY ATTACK . . .

Preformed wire rope

Preformed wire rope gives sinews of steel to bulldozers that clear the way so jeeps, planes, and trucks can advance. Preformed is in the fight on practically every kind of mobile war machine.

Men who use Preformed wire rope know that it outlasts and outworks ordinary wire rope. That it handles easier—speeds up operations—safeguards men and equipment.

In the past, Preformed has proved it is the wire rope for the tough peacetime jobs. Today, back of every attack, it is proving that it is the wire rope for the tough war jobs.

ASK YOUR OWN WIRE ROPE MANUFACTURER OR SUPPLIER FOR PREFORMED WIRE ROPE

begin full production in five months.

• **Lend-Lease Plan**—More than half the 9,000 plane workers affected by the cutback would be reabsorbed in that time, and plans are being worked out to lend-lease them to other war plants through the United States Employment Service until their services are required again.

Rate Suit Filed

Supreme Court is asked to equalize freight charges in Georgia as opening gun in fight for nationwide rate revision.

As it promised to do (BW—Jun.10'44, p24), Georgia this week filed a petition in the U. S. Supreme Court by which it hopes to force a nationwide readjustment of railroad freight rates.

• **Equalization Sought**—Under the present territorial system of rate making, manufactured goods move to market at lower freight rates within the so-called "official" territory north of the Ohio and Potomac rivers and east of the Mississippi than do similar goods moved in the southern territory. Historically, the northeastern states were the first to have rail transportation. Theoretically, their population density has been the justification for a comparatively low freight rate structure.

The court is asked to equalize railroad freight rates in Georgia—and by implication in other southern and in western states—with those in "official" territory; to force railroads which have collected "discriminatory" rates in the past ten years to pay damages; and to enjoin, permanently, the railroads serving Georgia and their rate bureaus from "conspiring and confederating" in rate making.

• **Says Bureaus Control**—Although the Interstate Commerce Commission is accused of being derelict in its duty and of condoning illegal rate-fixing practices, all defendants named in the petition are railroads.

A single carrier nominally can make its own rates, the petition recites, but it is charged that no road can charge joint or through-rates, using a combination of railroads, without approval of various rate bureaus "created by defendants to direct what these rates shall be."

• **Cites Rail Association**—By means of an organization chart, the petition sought to show that all rate matters come under control of the traffic advisory committee of the Assn. of American Railroads. It also alleged that southern lines are dominated by the northern railroads and that rates in the past have

MI-CO PARKING METERS OFFER . . .

3 Big Advantages

1
LOW COST MAINTENANCE

2
FEWER MOVING PARTS

3
UNUSUALLY LONG LIFE

It's all in the way they're built! ¶ From many sections of the country come reports of the exceptionally fine performance of MI-CO Parking Meters. In one installation of 1400 meters, only 1322 service calls were made last year—less than one call per meter per year. Similar experiences are reported from other localities. These performance stories are not unusual to those of us who know how sturdily MI-CO Parking Meters are constructed and the engineering skill back of their design. If your plans for the future include the installation of parking meters, you'll find it very profitable to investigate MI-CO. Folder giving complete details will be sent on request. Naturally MI-CO Meters are not now available, but it's not too early to plan for the time when the manufacture of peacetime products will be resumed.

MI-CO METER CORPORATION, 231 Court St., COVINGTON, KY.

Manufactured under the patents of F. L. Michaels
by The Michaels Art Bronze Co., Inc.

been determined by the sole factor of what the traffic will bear, by "combinations and conspiracies in restraint of trade."

Calling the freight rate structure "the creature of pernicious sectional politics," the petition called upon the Supreme Court to uphold the principle of "equality of economic opportunity for all peoples, all sections, and all states."

• **Heavy Damage Claimed**—Georgia asks judgment of $750,000 for the state, and $6,000,000 a year for Georgia shippers as triple the amount of "extortionate charges" collected by the railroads over the past ten years.

It cites freight on purchases by the state of goods shipped in from other states, Georgia's ownership of the Western & Atlantic Railroad (claimed in the petition to be "irreparably damaged"), and freight rates on its state institutional output of asphalt, cement, hardware, machinery, motor oils, and textiles sold outside the state, to support its damage claims.

• **Attacks Basis of Rates**—Transportation by rail, Georgia argues, costs no more in the South than it does in the North. To support this contention, it cites a group of rates on lead pipe, manufactured iron and steel, wine, and paper, under which Georgia shippers have the same level of rates on shipments from Georgia to the southern border states (Kentucky, Virginia, Tennessee, North Carolina) as northern shippers pay on comparable distances in "official" territory.

• **Rates Compared**—To show discrimination, the petition cited the carload rate on lead pipe shipped from Atlanta to Grand Rapids, Mich. (772 miles) as 86¢ a cwt.; from New York City to Grand Rapids (776 miles) 54¢ a cwt., a differential of 32¢ in favor of the northern shipper.

On first-class freight, Atlanta to Youngstown, Ohio (769 miles), the rate was cited as $2.13 a cwt.; between Manchester, Mass., and Columbus, Ohio, exactly the same mileage, $1.52 a cwt., a differential of 61¢ in favor of the North.

• **Seaports Affected**—On work clothing shipped from Macon, Ga., to Chicago (817 miles), the carload rate was cited as $1.56 a cwt.; from Philadelphia to Chicago (814 miles) $1.12 a cwt., a differential of 44¢ a cwt. in favor of the Philadelphia manufacturer.

To illustrate a contention that the freight rate structure discriminates against the Georgia seaports of Savannah and Brunswick, the petition said first-class freight from Alton, Ill., in "official" territory, to Baltimore was $1.68 a cwt., while to Savannah, "six miles less in distance," the rate was $2.39.

Troubled Waters

Irrigation and navigation interests have new battleground for Missouri River fight in two bills before Senate.

The Missouri River drains 528,000 sq. mi. of the United States, an area greater than all of prewar Germany, Japan, and Italy. As a means of navigation, a source of hydroelectric power, a constant threat of flood, and a reservoir of water needed by western farmers for their crops, it is a vortex of politico-economic controversy (BW—Mar.25'44, p19).

• **Legislation Fought**—Two measures now before the Senate after a death-grip struggle through the House provide a new battleground for a wrangle that has been in progress for years among the partisans of navigation, flood control, and irrigation.

One is the 1944 version of the rivers and harbors bill, which includes a $6,000,000 item for a 9-ft. open-river channel 300 ft. wide from Sioux City, Iowa, to St. Louis, where the Missouri joins the Mississippi.

The other is the postwar flood control bill, which embodies the Army Engineers' plans for a chain of twelve flood-control reservoirs to cost approximately $490,000,000.

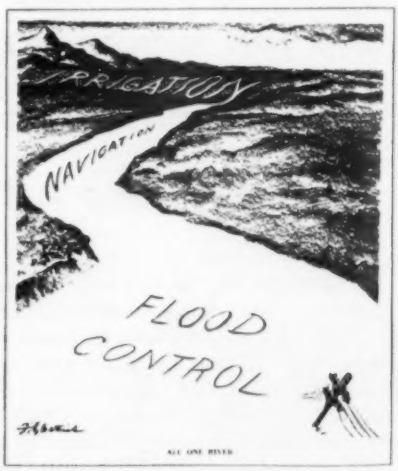
• **An Old Nightmare**—Debate on these measures in the House revived a nightmare that haunts the arid West. That is the fear of a statutory determination that the advocates of irrigation have no rights to the waters of the Missouri that cannot be subordinated to those of the navigation and flood control people downstream.

Despite strong support in high places (President Roosevelt, among others in his Administration, sided with the irrigation enthusiasts), members of the House from the arid states fought a losing battle. Upper and lower river forces now are girding for the battle in the Senate, the last scene of action before the bills reach the President's desk. It's probable that the shooting won't start again until after Labor Day, but the future of the Missouri River rivals the war as a topic of political discussion in the Dakatos, Montana, Wyoming, Nebraska, Iowa, Colorado, Kansas, and Missouri.

• **Dependent on Water**—The very life of these states depends on an adequate supply of water. Rainfall is light, generally 3 in. to 20 in. a year. Most farms in this area are supplied with water from storage reservoirs—the vast lake behind Ft. Peck Dam in Montana and the system of irrigation lakes developed by private capital and by the Bureau of Reclamation of the Interior Dept.

In the spring, the farmers along the upper river watch with dismay as the Missouri pours a terrifying flood of the water they will need later into the lowlands that need no water. And they cry for more storage facilities.

With no less dismay and anger, the people in the lower valley watch the Missouri swirling over its banks and into their streets, their homes, and their industrial plants. And they cry for more flood control reservoirs. In storage, the two camps see eye to eye; the fight



Cartoons in the St. Louis Post-Dispatch reflect the newspaper's crusade—supported by the Farmers Union—for creation of an autonomous federal agency like TVA to mediate the ageless Missouri River controversy. Contending the river is common property, the paper believes such an agency can appease the partisans of navigation, irrigation, and flood control.

MIRANDA USES HER HEAD!

NOT a bad idea if it's easier that way! But the important thing in getting a load of many pieces from here-to-there, is to carry it as a *unit,* not piece by piece. It's the simple basic principle used in thousands of plants with Barrett Lift-trucks and Skids. It's the way to simplify the materials handling job, eliminate the need for loading and unloading and other waste motion.

How successful it is in saving time, effort, and man-power, is more clearly evidenced than ever in war-busy plants. Barrett equipment is helping them maintain production at peak speeds with limited personnel.

Actually, *one* man with Barrett equipment can do more than *three* or *four* without it. With materials handling experience in all types of plants, Barrett engineers are ready to "use their heads" in helping you save time, manpower, and cost.

Your copy of the new Barrett Junior Catalog is ready. Write for it—now!

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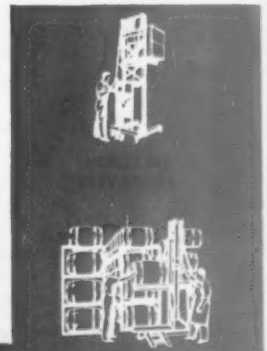
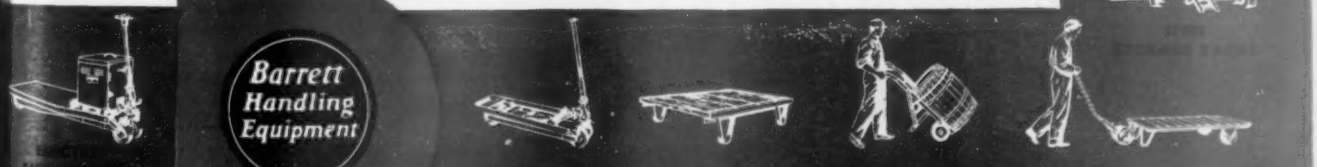
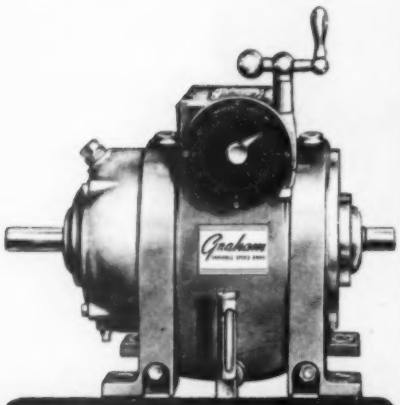


BARRETT

ONE MAN DOES MORE THAN 3 OR 4 . . . WITH A BARRETT LIFT-TRUCK

Barrett Handling Equipment





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VARIABLE SPEED DRIVE
GIVES YOU
ALL SPEEDS
FROM TOP
TO ZERO PLUS
REVERSE

You who are responsible for modernization of machines to compete in the post war market should investigate the Graham, because Graham alone has these IMPORTANT ADVANTAGES

1. Not just 5 to 1 range, or 10 to 1, or 100 to 1, but every speed to zero, forward and reverse, without stopping the motor.
2. Full torque guaranteed over the entire speed range.
3. Close speed adjustment with accurate return to pre-set speeds.
4. Extreme compactness, all metal, self-lubricated, no belts, no tubes, moderate price.

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Graham
VARIABLE SPEED DRIVE

Co-op Turns Its Hand to Hooking Rugs

Hooking rugs by hand has been organized into big business in the Great Smokies.

North Carolina mountaineers in their own communities—frequently in their own homes—make all the hooked rugs distributed by Masterkraft, Inc., through 1,225 department and home furnishings stores in the U. S.

• **80% of U. S. Output**—Their production accounts for 80% of all domestic hand-hooked rugs—10% come from Virginia, Tennessee, Georgia, Arkansas, and another well-publicized 10% from New England.

Masterkraft's sponsorship of Carolina handicraft dates back to shortly before the war when the company's president, C. James Garofalo, saw that his established trade in Oriental rugs was threatened.

He approached the mountaineers through the Farmer's Federation at Asheville, which added handicraft to its long list of cooperative projects.

• **Processes Are Separated**—Although many of the rugs are made from start to finish in the mountaineer cabins, efficiency has been introduced through the co-op which separates such processes as yarn blending, carding and combing, spinning, dyeing, bleaching into separate plants.

To reduce cost of production, Masterkraft urged the Carolina weavers to make use of raw materials near at hand—wool from home-grown sheep, hairs from various hides tanned in the neighborhood, and potato and coffee bags for backing (until WPB restricted re-use of these to bagging coffee and sugar).

• **Competitive Prices**—Such economies have reduced prices on domestic rugs to a level competitive with imports. Small hand-hooked rugs turned out at the rate of 5,000 to 6,000 a week now sell for as little as $1.95 at a higher profit than was formerly realized on $6.95 rugs. The price of room-sized hooked rugs goes as high as $600. But the small scatter rugs are by all odds the biggest sellers. They are made of wool, cotton, rayon, and blends of these fabrics.

Notwithstanding modern methods applied to materials and distribution, Masterkraft employees still have the pride of handicraft in their product. They follow the age-old method of looping material through a basic cloth, begun in the twelfth century by the Copts of ancient Egypt.

is over when and how water should be released, and for what purpose.

• **Compromise Sought**—How best to harness these angry waters that caused $50,000,000 damage last year and took another terrific toll this year, so that plenty will be available in the upper valley in the hot, dry summers and so that navigation on the mighty river might be improved, is the problem to which cooler heads in the area have addressed themselves.

The St. Louis Post-Dispatch, pointing out that the Missouri is, for the 2,470 miles of its length, only one river, and that it is therefore the common problem of all the divergent interests, advocates a Tennessee Valley Authority approach—a single, autonomous federal agency with authority to make decisions. And the National Farmers Union, with half its membership in the Missouri Basin, strongly favors the proposal.

• **Irrigationists Dissent**—But a powerful bloc of 21 western senators has other ideas. This group has two pieces of legislation on the fire. One would amend the rivers and harbors act to recognize prior irrigation use of water west of the 97th meridian (which bisects the Dakotas, Nebraska, and Kansas) and to compel the U. S. government to observe state laws with respect to its use.

The second bill would adopt as government policy a plan evolved by the Bureau of Reclamation instead of the Army Engineers' plan. The bureau's proposal is to build 89 reservoirs on the Missouri and its tributaries with flood control, irrigation, and power facilities to cost a total of almost $1,000,000,000. This would provide irrigation for 4,700,000 additional acres (4,500,000 acres are irrigated now).

• **Policy Reversed**—In diametric contrast to the policy enunciated in the

Jones + Lamson Optical Comparators-

A MODEL FOR EVERY JOB...

JONES & LAMSON Optical Comparators are made in various models designed to cover an almost unlimited range of inspection work—from precision products of the tool room through a diversity of industrial parts and products requiring a method of inspection that is at the same time accurate and rapid.

The design of these models is the outcome of more than twenty years experience in the field of inspection by optical projection.

Our engineers are inspection specialists, their knowledge of holding fixtures, handling methods and suitable Comparator equipment has saved thousands of dollars in manufacturing plants throughout the country. Call, write or wire for their service today.

This book, "Beyond a Shadow of a Doubt" will tell you more about our Optical Comparators and what they are doing.

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BYRON WESTON CO. LINEN RECORD, EXTRA NO. 1 100% DEFIANCE LEDGER 100% WAVERLY LEDGER 75% CENTENNIAL LEDGER 75% WINCHESTER LEDGER 50% BLACKSTONE LEDGER 25% WESTON'S MACHINE POSTING LEDGER AND INDEX 50%

WESTON PAPER

For WAR MAPS You Can Read In The Dark

Maps rank near the top among the essential tools for victory. The ability of air—tank—or artillery men to read them rapidly and accurately cannot depend upon the sun, for modern war is on 24-hour schedule. Yet light that discloses position to searching enemy eyes is equally taboo.

Men of science solved the problem with fluorescent maps, every detail of which becomes vividly clear under the ultra violet rays of a "black light" bulb. Weston technicians added the finishing touch by making the fluorescence *right into the paper* where it couldn't be rubbed or washed off.

One of the Weston war services of which we are most proud is the manufacture of this fluorescent map paper. It has the stamina and resistance to rough handling and the elements that are essential for war duty. These qualities are inherent in the Weston cotton fibre content papers on which your future records, documents, accounts and correspondence may be placed with lasting assurance.

As your supplier will tell you, this simple rule is all you need to keep in mind.

If it's worth keeping, keep it on a WESTON Paper

BYRON WESTON COMPANY

DALTON, MASSACHUSETTS

MAKERS OF HIGH GRADE PAPERS

EVERY WESTON PAPER IS A COTTON FIBRE CONTENT PAPER

DEFIANCE INDEX 100% WINCHESTER INDEX 50% WESTON'S BOND EXTRA NO. 1 100% DEFIANCE BOND 100% HOLMESDALE BOND 75% WINCHESTER BOND 50% BLACKSTONE BOND 25%

rivers and harbors bill that water not needed for navigation may be used for irrigation, the Bureau of Reclamation proposes that water remaining after the 9,000,000 acres have been irrigated be available for navigation. The Bureau argues that more than half of the water turned into a field eventually finds its way back to the supplying stream.

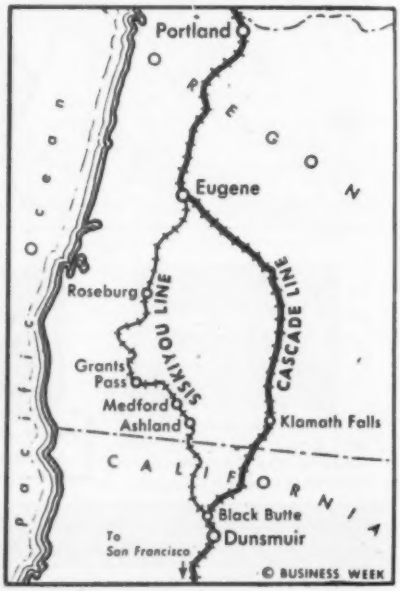
Old Law Invoked

Southern Pacific sued by U. S. under land grant act for dropping southern Oregon rail service as wartime measure.

The federal government at Portland, Ore., has dug up an old law—the land grant act of 1866—in an attempt to appease several southern Oregon cities in a bitter fight with the Southern Pacific Railroad.

The cities—Roseburg, Grants Pass, Medford, and Ashland—complain that since Jan. 12, 1942, they have had no through passenger rail service into California.

● **Service Stipulated**—The government, in filing a civil complaint against the railroad in the U. S. District Court, seeks an order directing the road to comply with the old law. Under this law, several million acres of land were granted the predecessors of the railroad



With through service on the Siskiyou line abandoned for the duration, Oregonians heatedly remind Southern Pacific of an old agreement—a grant of land for continued service.

in return for which the railroad companies were obligated to furnish certain services.

One such service was a through line between Roseville, Calif., near Sacramento, and Portland, through the Willamette, Umpqua, and Rogue river valleys in Oregon. Roseburg, Grants Pass, Medford, and Ashland are in the Umpqua and Rogue river valleys.

• **Shorter Line**—The original Siskiyou line through the southern Oregon cities was completed in 1887. But in 1926 the Southern Pacific completed what is known as the Cascade line from Eugene, Ore., into California. It is 25 miles shorter, has less grade.

Until January, 1942, the Southern Pacific operated through passenger service over both routes. Then came the pressure of war and through service over the Siskiyou section was abandoned.

• **Postwar Restoration Pledged** — To counter a heated editorial campaign by southern Oregon newspapers, the Southern Pacific's F. S. McGinnis, vice-president in charge of passenger traffic, has issued a booklet: "The Facts About Southern Oregon Train Service."

In it he points out the number of units of equipment saved for the war effort by using the shorter route. He also promises to restore through service when the war ends.

VANPORT FOR VETERANS?

The nation's largest multiple dwelling war housing project—Vanport City, near Portland, Ore.—may be converted after the war into a rehabilitation center for wounded and ill members of the armed forces.

Such, at least, is the recommendation of the Portland Housing Authority, which directs operation of the $25,000,000 project. Spreading over a square mile, Vanport houses approximately 35,000 war workers, many of whom are employed in the nearby Kaiser shipyards (BW—Dec.11'43,p74).

Vanport is less than five miles from the government's Barnes Hospital at Vancouver barracks, where soldiers from all fronts now are recovering from wounds. Advocates of the proposal to use Vanport as a rehabilitation center point out that thousands of veterans will not need continuous hospitalization, but will require only a few visits to the hospital each month. Vanport, these persons say, could afford the wounded veterans a normal home life with their families while receiving treatment.

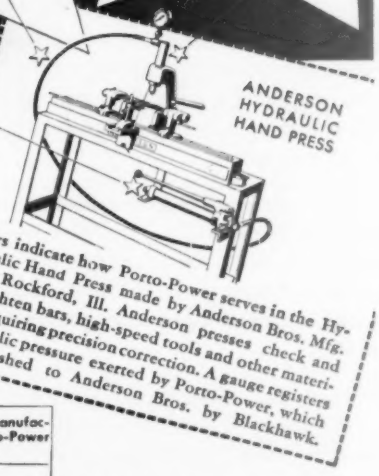
Right now, the project has 2,400 vacant units. Families are still moving into the project, but more are moving out. An average week will show a net loss of approximately 100 families. Most of them are returning to their homes.

One more example of how a *Standard* Blackhawk Hydraulic Unit has given extra utility and sales appeal to the product of another manufacturer.

Blackhawk's S-71 **Porto-Power**
VETERAN of "1001 MISSIONS"
— becomes the Heart of the Anderson Hydraulic Hand Press

HAND PUMP on Blackhawk S-71 Porto-Power develops internal pressure of 10,000 P.S.I. All controls are on the pump.
FLEXIBLE OIL LINE carries fluid under pressure to ram. Remote control permits ram to operate in all directions and fit into cramped quarters.
RAM of Blackhawk Porto-Power develops TONS of hydraulic power. Ram body and automatic-retracting plunger are threaded for coupling with attachments or fixtures—to harness ram action for countless services.

Porto-Power is a veteran Blackhawk Hydraulic Unit commonly known as "the service tool with 1001 uses" in maintenance and production work. But the versatile nature of these standard units (2, 4, 7, 10, 20 or 50-ton capacities) also adapts Porto-Power to the products of other manufacturers — as a built-in "power house" for the application of force to an operating part.



Stars indicate how Porto-Power serves in the Hydraulic Hand Press made by Anderson Bros. Mfg. Co., Rockford, Ill. Anderson presses check and straighten bars, high-speed tools and other materials requiring precision correction. A gauge registers hydraulic pressure exerted by Porto-Power, which is furnished to Anderson Bros. by Blackhawk.

A few of the "1001" Porto-Power Uses in Maintenance and Production
Pull gears, pulleys, wheels
Lift and position machines
Bend pipe and beams
Rebuild wrecked vehicles
Pull pins and shafts
Clamp parts for welding
Press assemblies together
Test strength of materials
General push, pull, clamp, spread, press or bend operations

Products of other manufacturers on which Porto-Power is STANDARD
Lift Trucks
Rail Welders
Cable Connectors
Tensile Testers
Road Rollers
Rotary Brooms
Drill Presses
Armature Balancers
Nozzle Injector Testers
Furnace Door Lifts
Amphibious Tanks
Mobile Machine Shops
Aviation Jacks
Frame and Axle Machines
Veneering Presses

Now is the Time

. . . to get acquainted with Blackhawk Hydraulic Units which can give your postwar product extra utility and sales punch. You may have them power-driven or hand operated—standard or specially engineered. For catalogs—write Blackhawk Mfg. Co., 5300 West Rogers Street, Milwaukee 1, Wis.

BLACKHAWK
High-Pressure Hydraulics

TENNESSEE RESOURCES ARE IDEAL FOR CHEMICAL PROCESS INDUSTRIES

an Important Message to Manufacturers from PRENTICE COOPER GOVERNOR of TENNESSEE

CHEMICAL process industries find major economic advantages in the availability of coal, phosphate, limestone, sulphuric acid, and abundant low-cost hydroelectric power in Tennessee.

These and other resources, combined with excellent transportation facilities for the assemblage of raw materials and the shipping of finished products, offer to chemical-process industries advantages unsurpassed by any state.

Other types of manufacturers find many advantages to plant locations in Tennessee. Read the **basic** advantages listed.

Manufacturers interested in changing conditions, increasing population shifts, and postwar competition should investigate Tennessee now.

Write for specific information and surveys relating to your particular requirements. Ask for illustrated book: "Tennessee—Land of Industrial Advantages."

Basic Advantages To Plant Locations In Tennessee

★ An unsurpassed variety of major industrial minerals and agricultural products.

★ Huge coal reserves making possible economical steam-power generation.

★ An inexhaustible supply of industrially suitable water.

★ Inland waterway system of three great rivers for low-cost transportation to Midwest, Gulf, and World ports.

★ Central location permitting 24-hour delivery to more than 51% of the Nation's population.

★ Excellent railway, highway, and airline transportation.

★ Cooperative skilled and semi-skilled native-born labor.

★ Opportunity for low-cost assemblage of raw materials or manufactured parts.

★ Uncongested plant sites near basic materials, river and rail terminals.

★ Ideal living conditions for both employer and employee.

★ Sound State tax structure. No personal earnings or sales taxes.

★ State and municipal governments friendly to industry.

Governor's Industrial Council, Department of Conservation
720 State Office Bldg. Nashville, (3) Tenn.

Investigate TENNESSEE
THE FIRST PUBLIC POWER STATE

Planes for Airlines

Requisitioned planes to be returned by Army, but it won't mean much to travelers who don't have a priority.

All Army Air Transport Command service contracts with domestic airlines will be canceled, and the operators will have most of their requisitioned planes still in Army hands (BW—Apr.29'44, p10) back by 1945. But the luck of nonpriority travelers in getting aboard, and staying there, will not improve. It may get worse, because the flow of preferred military trippers is increasing; people at the low end of the four-grade priority system are being bounced off for those higher up.

• **Mail Improves**—Air mail is doing better (BW—Apr.8'44,p7). About 80% of it is now being flown straight through without off-loading delays. This is partly because the lines already have got back part of their equipment. But mainly it is the result of a successful blitz on the Army by Postmaster General Frank Walker.

Weeks ago, when the 8¢ air postage rate took effect, public dissatisfaction with air-mail service became so loud that Walker took an inspection swing around the country. He found war production business being hampered by delayed air mail.

• **Showdown With Army**—On that ground, and because he was unwilling to lower the general standard of air postal service, war or no war, he had a showdown with the Army, which, for more than a year, had insisted that an air-mail preference system be established to make room on the airlines for military traffic.

Walker had some evidence that the Army was running nonessential junkets in airline-type planes, occasionally letting them stand idle, and writing travel priorities for noncombatant men in uniform and their womenfolks, and he won the space necessary to fly most of the mail.

At some places, at some times, more than half of the mail had been off-loaded for long delays, or entrained over long distances. Airline operators say that when conversion of their 27 recently returned planes is completed in two or three months they will fly all of the mail.

• **Single Concession**—Space for air mail is the Army's only concession. Since the military intends to occupy most of the seat space, giving back the requisitioned planes is not much more than a gesture as far as additional space

The answer is balance

IF that top in Buddy's hand were the least bit lopsided, it would wobble. But it spins true because it is properly balanced.

And if the crankshaft in your car doesn't have perfect balance at all speeds, it will wobble too. But we call it vibration. And it can create a lot of high-class trouble — in warplanes as well as cars.

General Motors men, always on the lookout for ways to make more and better things for more people, tackled this vibration problem years ago. And they finally developed a universal balancing machine which automatically locates unbalanced weights in rotating parts. You may have seen it at the World's Fairs performing its quiet miracles. It tells us what to do to eliminate engine vibration at its source, making a smoother-running and much longer-lived automobile.

And when the time came for General Motors to take up the production of aircraft engines, the same balancing methods that had so greatly reduced vibration in our cars were applied. Vibration, so dangerous in the air, was cut and cut again. Power was stepped up. Higher speeds became possible.

Today, our faith in victory grows ever stronger as we see our giant air fleets winning epic air battles, making history on every mission. To put these fleets in the skies was a major miracle in itself. And one of the sources of the extra margin of power and durability they hold is the mastery of balance gained by peacetime enterprise.

America is blessed with such rich reserves of experience because here men have always received just rewards for solving tough problems, for undertaking new things, for cracking hard nuts.

This is the idea that helped give our country the bountiful life we knew in prewar days. It proved to be a great and timely aid to the war effort. And it will insure more and better things for more people in peace.

GENERAL MOTORS

"VICTORY IS OUR BUSINESS"

CHEVROLET • PONTIAC • OLDSMOBILE • BUICK
CADILLAC • BODY BY FISHER • FRIGIDAIRE
GMC TRUCK AND COACH

Every Sunday Afternoon
GENERAL MOTORS SYMPHONY OF THE AIR
NBC Network

KEEP AMERICA STRONG

Buy War Bonds

REYNOLDS ALUMINUM:

High on a Haitian plateau – a new source of ore for America

WINGING above the hills and plateaus and deep green valleys of the island of Haiti, an airplane one summer day in 1943 carried a party of geologists from Reynolds Aluminum. They were hunting, by a series of air and ground explorations, a new source of bauxite—as aluminum ore is called.

At one point the chief geologist began to study more intensively the terrain below. "There on that plateau," he said, "the contours seem to be right . . . bauxite is likely to be there."

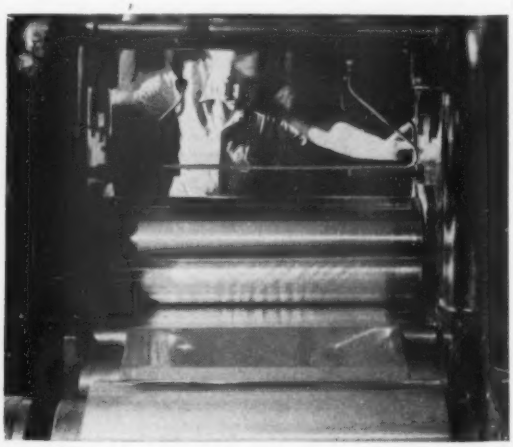
A few days later the party was making its laborious way on horseback to the plateau. Many samples were taken. But only after months of analysis could the announcement be made—of a source of aluminum ore remarkably low in impurities . . . and so abundant that preliminary surveys showed decades of supply!

That airplane "prospecting" flight was merely the climax of an exciting story. It had started months before, when a group of scientists at a great technological institute began a study of masses of geologic and geographic data. Their findings, pointing to Haiti as a possible source of aluminum, were based on precise scientific reasoning.

Today, a 60-year concession to obtain this ore is held by Reynolds Aluminum through its subsidiary, the Reynolds Mining Corp.

Tomorrow, these important bauxite developments, plus Reynolds enterprise, will assure America a great new source of high-grade, low-cost aluminum.

FROM REYNOLDS' 40 PLANTS come millions of pounds of aircraft aluminum . . . thousands of miles of aluminum foil. Reynolds has rolled more light-gauge aluminum than any other company. Below, a Reynolds "foil mill" rolls protective wrapping for the armed forces' supplies.



for civilian travelers is concerned.

In fact, the Army is giving back the old DC-3's because it is getting more C47's (military version of the DC-3's) which it likes better. At the same time, it is expanding the domestic section of its Air Transport Command.

• **More Foreign Service**—Cancellation of the domestic ATC contracts will be partly offset by an Army request for additional contract schedules on its foreign system. This operation cannot use any of the two-engined planes of the domestic routes, but it will siphon off some of the airlines' ground and air crews.

This loss will be made up, however, by availability of skilled personnel released from the discontinued War Training Service of the Civil Aeronautics Authority—the men who have been battling the Army's female Wasps for aviation jobs.

• **Safety Preserved**—One-third to one-half again as much flying can be done with each plane as before the war. The prewar work day of a transport was about 1,100 miles. At present, a day's average run is 1,900 or 2,000 miles.

Soon the operators will have to cut back to 1,500 or 1,600 miles to maintain the proper turnaround schedule and to have some equipment in reserve. They insist, however, that the present grueling pace is not maintained at the expense of safe maintenance.

• **Everybody Surprised**—This impressive increase in the utility of airline equipment surprised everybody. The operators had to try it, and it worked. The Army goes even farther with the same Douglas planes, loading them in excess of 30,000 lb. gross, whereas civil air rules limit the gross to 25,000.

The present 300-plane limit on the airlines may be raised this year, so they can have all of their prewar fleet of 350. But the prospect for new planes is not bright. A responsible spokesman for the airlines said he doubted if any four-engine equipment, meaning Douglas DC-4's, would be available for 14 or 16 months. The Pacific war will take far more transport than is required in Europe—to haul supplies and gasoline into China. Limiting factor on the B-29 attack on Japan is air-transported gasoline.

ARMY'S PACKAGE MUSEUM

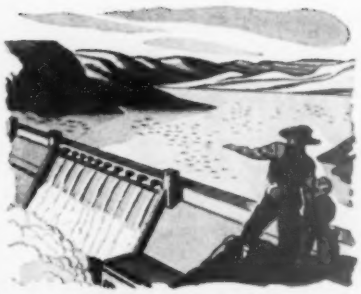
Army Ordnance has set up a packaging museum in the Pentagon Bldg. for the guidance of officers in the solution of new packaging problems.

Officers take their problems to the museum and, if they don't find precisely the package they need, they usually find enough ideas to help them devise their own.

FACT OR FICTION?

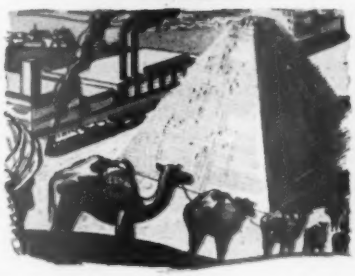
A 47-second test on FAMOUS DAMS on the Main Street of the Northwest

NORTHERN PACIFIC



Q. *Grand Coulee and Bonneville dams are helping shift U. S. "center of gravity". Fact or fiction?*

A. Fact—in terms of industry and population. Abundant low cost power is one of many factors moving industry west.



Q. *Cement in Grand Coulee could make enough concrete to build another Great Pyramid. Fact or fiction?*

A. Fact. It could reproduce this wonder of the world *3 times!* All cement for the dam moved over N. P. rails.

Q. *Secret mines, discovered near dam sites, now produce huge amounts of aluminum, magnesium. Fact or fiction?*

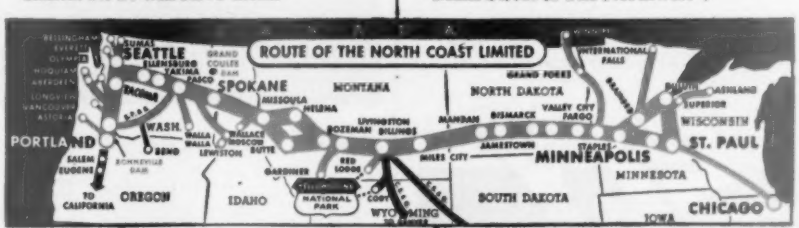
A. Fiction. Not mines, but low cost electricity, helped attract new light-metal plants to "Main Street".

Q. *A 49th U. S. state is proposed, to embrace Grand Coulee. Fact or fiction?*

A. Fiction. But arid lands made to bloom by water from the dam will be 1875 square miles—50% larger than Rhode Island. N. P. will serve them.

Q. *Today, post-war planners are shopping on Main Street. Fact or fiction?*

A. Fact. Many "bargains", including ample power from dams, await industry in new locations on Northern Pacific's "Main Street of The Northwest".



NORTHERN PACIFIC

MAIN STREET OF THE NORTHWEST

WHAT IS YOUR DUST PROBLEM ?

ASK FOR BULLETIN 98

THIS Sly Dust Filter collects dust from handling linseed meal. It is the automatic continuous type with support, exhaust fan and continuous discharge valve, and mounted on the roof of the building to conserve space.

More than 5,000 Sly Dust Control installations are in use collecting 111 kinds of dust. They are paying investments. These systems are not expensive in first cost nor in operating cost. They mean clean plants with increased production, more healthful atmospheres, and improved operating conditions.

THE W. W. SLY MFG. CO.
4749 Train Ave. · Since 1874 · Cleveland 2, Ohio

SLY
PIONEERS IN Scientific DUST CONTROL

Scrambled Eggs

OPA has unsnarled the price ceiling tangle, but WFA is still wrestling with the problem of how to work off the surplus.

Midwestern farm wives may be peddling their eggs for 15¢ a dozen, but in OPA the wheels keep right on grinding—surplus or no surplus. Sometime next month they will grind out a new price regulation for eggs.

• **Helps Producers**—However academic egg ceilings may seem at the present time (even the outraged housewife who complained to the New York Times that she was paying 50¢ a dozen for eggs was getting them for 5¢ less than the New York City ceiling for Grade A, boxed), the new regulation is the subject of rejoicing in the trade and in OPA where two experts from the industry, Waldo Haldeman and Steven Chisick, have labored over it for more than six months.

OPA's work will be the farmer's gain. The forthcoming egg order is probably the biggest single job of simplification OPA has undertaken.

• **Complicated Formula**—For an example of how the existing egg order works (it's one of OPA's most complicated) take the unhappy case of the poultryman in Bellows Falls, Vt., who wanted to find out how much he was entitled to charge the first receiver who bought his eggs for shipment into the Boston market sometime during the past spring.

Assuming that the farmer graded his eggs out into consumer grades (the procedure is only fractionally less complicated if he grades them out into wholesale grades), he would have had to proceed in somewhat this fashion:

(1) His first step would have been to find his nearest basing point (the regulation established nine of these throughout the U.S.), which happens to be Chicago. With this information he would start from scratch with a basing point price of 36.9¢ a dozen.

(2) The farmer would then have had to find the lowest carlot freight rate from Chicago to Bellows Falls. This is probably in the neighborhood of 83¢ per cwt.

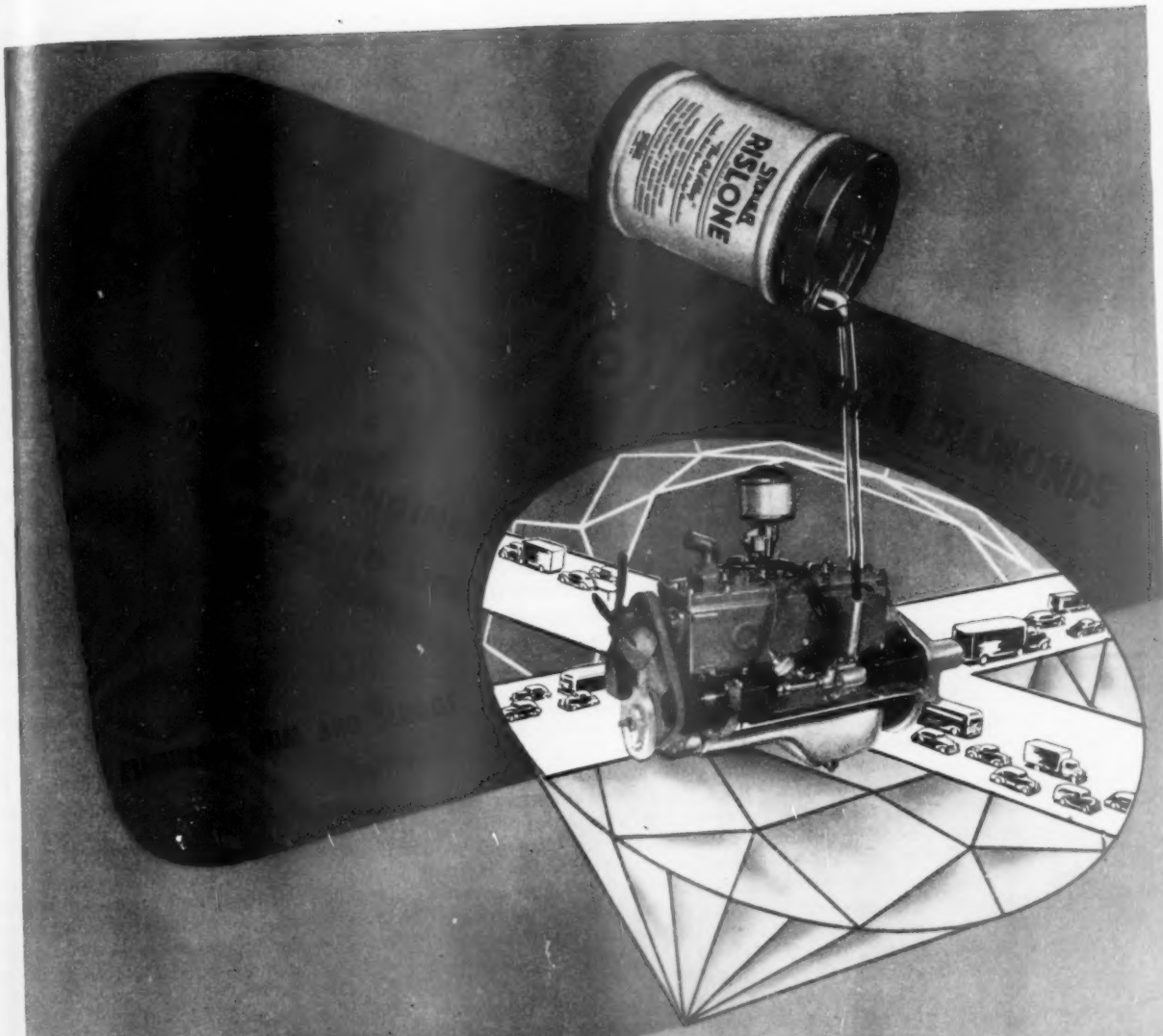
(3) He would then have had to multiply the freight rate by a multiplier, furnished by OPA, which varies by grades and by seasons. (The multiplier allows for grade deterioration and costs of icing and care in transit.) The multiplier for Grade A and AA eggs sold in the December-May period is 1.9. This times the freight rate would have given the farmer a transportation factor of 1.6¢ a dozen.

(4) This, added onto his base price of 36.9¢, would have given him 38.5¢—the price he might charge the first receiver.

• **Further Complications**—If the farmer wanted to ship some of his eggs to customers in Maine—or to some point more than 200 miles away on a delivered basis—this procedure would have been fur-

BIGGEST BIG DEAL

Normally inured to big deals, California realtors are enthusiastic over the recent sale of San Francisco's famed Hotel St. Francis. Its $5,000,000 price reportedly is the greatest ever involved in a single piece of California real estate. The 13-story 1,000-room hostelry overlooking Union Sq. thus leaves the Crocker banking family, which opened it in 1904, and goes to Benjamin Swig of Boston and an unnamed group of eastern associates.



EVERY possible extra mile of service must be procured from our existing supply of motor vehicles and all internal combustion engines.

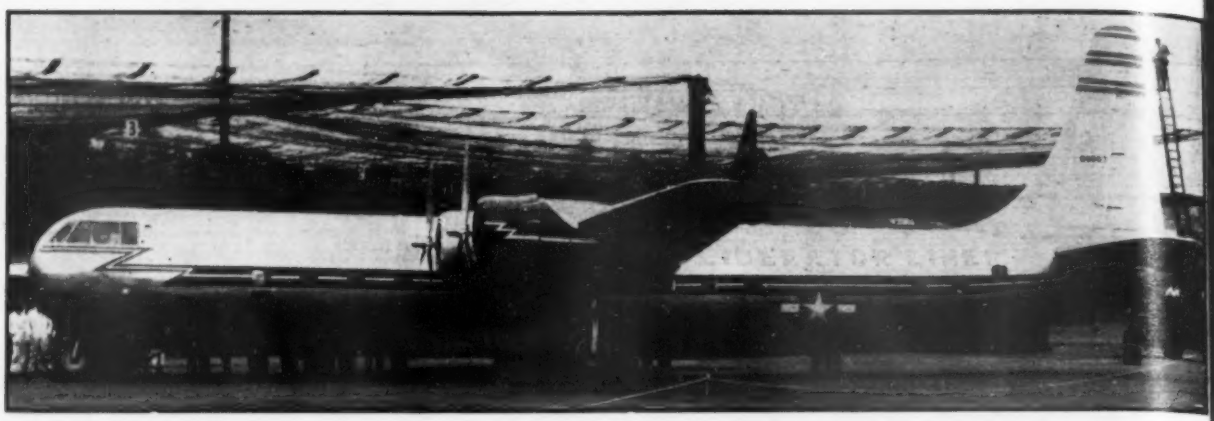
The millions of motor vehicles in this Country represent a powerful arm of transportation and can be a tremendous aid in helping speed the flow of Military, farm and industrial needs so essential to ultimate Victory. They represent an almost irreplaceable commodity and must be kept in "peak performance" condition so that every transportation mile possible may be procured from them.

A quick KARBOUT clean-out treatment followed by the regular use of RISLONE, the oil alloy, in the crankcase with the regular motor oil will dissolve motor gums and eliminate sludge . . . free sticky valves . . . restore lost compression and power . . . improve acceleration . . . make engines run quieter and smoother and prolong engine life. THE SHALER COMPANY, Waupun, Wisconsin, and Toronto, Canada.

Write for this 64-page illustrated book on lubrication and "Tune-Up" procedure. It's free.

SHALER

KARBOUT AND RISLONE



FUTURE FOR BOMBERS

Under camouflage netting at San Diego, Calif., the latest prototype of big luxury airliners to come is inspected between test hops. Developed by Consolidated Vultee Aircraft, this Model 39 is designed for 50 daytime passengers or 24 sleepers. Much of its wing, engine-mount, and landing-gear design comes from the firm's B-24 Liberator bomber; but its fuselage is 24 ft. longer. Like Lockheed's new Constellation, which recently set a transcontinental speed record (BW—Apr.22'44,p16), the 39 must serve in the Army before going into airline service. Both of those planes will be grasshoppers, however, beside the huge 400-passenger job which Consolidated Vultee announced last week it is building for the Army. Stripped of nonessentials, that ship is to carry 400 soldiers.

ther complicated, because he would have had to take two freight rates into his calculations, the rate from Chicago to Bellows Falls, and the rate from Bellows Falls to the point of delivery.

It is more likely that he gave up before he reached this point and either took his chances on being trimmed by the first receiver (who must also tussle with freight rates and multipliers, but who usually has a transportation department to do it for him) or took himself to Montpelier, 16 miles away, to figure from local chain store egg prices what might be a fair price for him to receive for his eggs.

• **Last Year's Headache**—If he has survived the old regulation, next fall—when the market tightens up again and ceilings become a matter for concern—the poultryman will be able to get a copy of OPA's new order. This lists ceilings for every level of distribution, for every county in the country, and for every week in the year. OPA has taken care of basing points, multipliers, and the like, and the poultryman has only to look at the place marked X by his local war price and ration board.

• **Storage Overflows**—Not entirely altruistic, OPA believes that—for obvious reasons—the new price regulation will be easier to enforce than the old.

While OPA worries about next fall's ceilings, the War Food Administration is riding the tail end of a record-breaking egg surplus which has brought prices in most parts of the country crashing through both ceiling prices and WFA's support price of 27¢ a dozen for nest-run eggs (BW—Apr.15'44,p49).

To keep the surplus eggs from spoiling under the outraged noses of the voting public, WFA has tucked them into every available storage nook. Eggs from the Rocky Mountain states have even been shipped into apple cooler space in Washington and Oregon. On June 1 there was, in shell or frozen form, the equivalent of 17,447,000 cases (30 dozen eggs to a case) of eggs in storage. This compares with a five-year average (1939-43) of 11,000,000 cases in storage on that date.

In desperation, WFA has even tried diverting eggs into meat scrap tankage for animal and poultry food (BW—Jun.10'44,p41). These eggs, purchased at its 27¢ support price—or at 30½¢ from WFA's agents—are going for 5¢ a dozen. Even at this price, meat packers and other processors of animal foods, aren't enthusiastic. They claim eggs spoil their carefully calculated formulas. Apparently WFA can't even feed its eggs back to the hens. Only 100 cars (600 cases to the car) have been sold for tankage so far—and this looks like the limit.

• **Surplus Tapers Off**—Even though the surplus is now tapering off, WFA may not have heard the last of it. Officials gloomily admit that they are going to have to take the blame for a lot of spoilage when the eggs come out of storage next fall. (They will also have the unpleasant job of explaining just how it all happened, with elections only a few weeks off.)

In its hurry to keep support prices from crashing down, WFA has been pushing ungraded eggs into storage. Many low-grade eggs, which would ordinarily have been graded out, are filling the warehouses. Much of the storage space now being used isn't suitable for eggs. The combination of these two factors is expected to make for heavy spoilage in storage.

Through it all, WFA has clung to ceilings and support prices—not without criticism. On the floor of Congress last week, Sen. Raymond E. Willis, R., Ind., charged bungling. "The War Food Administration," he cackled, "has cheerfully accepted its assignment to take the price of eggs out of the hands of God. And right now it is in an awful scramble."

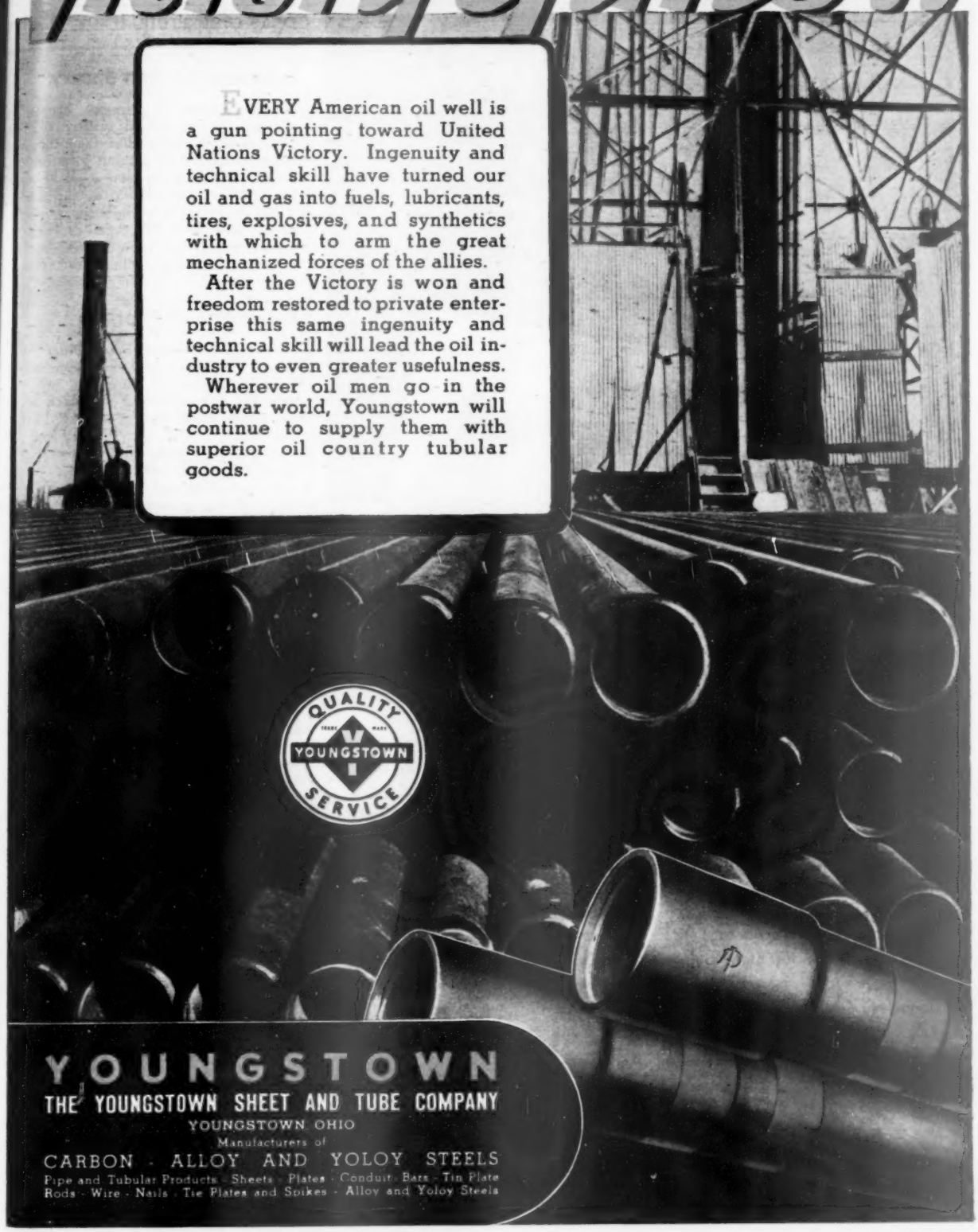
STRONGER ALUMINUM

A new high-strength aluminum alloy "intended primarily for use in long-range bombers and fighters" and designated "75S" was announced this week by Aluminum Co. of America.

Although exact specifications of the alloy are secret, it was said to contain about 90% aluminum, plus magnesium, zinc, and a "small amount of copper and other elements." Compressive yield strength is described by Dr. Francis C. Frary, Alcoa's research director, as about 67,000 lb. per sq. in., and when the aluminum is heat-treated and extruded in aircraft wing beams, tensile strength is said to be 88,000 lb. per sq. in.

First experimental batch of 75S was produced last fall. Now, eight aircraft manufacturers are reported to be using it in the production of experimental planes.

Victory Guns...



EVERY American oil well is a gun pointing toward United Nations Victory. Ingenuity and technical skill have turned our oil and gas into fuels, lubricants, tires, explosives, and synthetics with which to arm the great mechanized forces of the allies.

After the Victory is won and freedom restored to private enterprise this same ingenuity and technical skill will lead the oil industry to even greater usefulness.

Wherever oil men go in the postwar world, Youngstown will continue to supply them with superior oil country tubular goods.

QUALITY YOUNGSTOWN SERVICE

YOUNGSTOWN

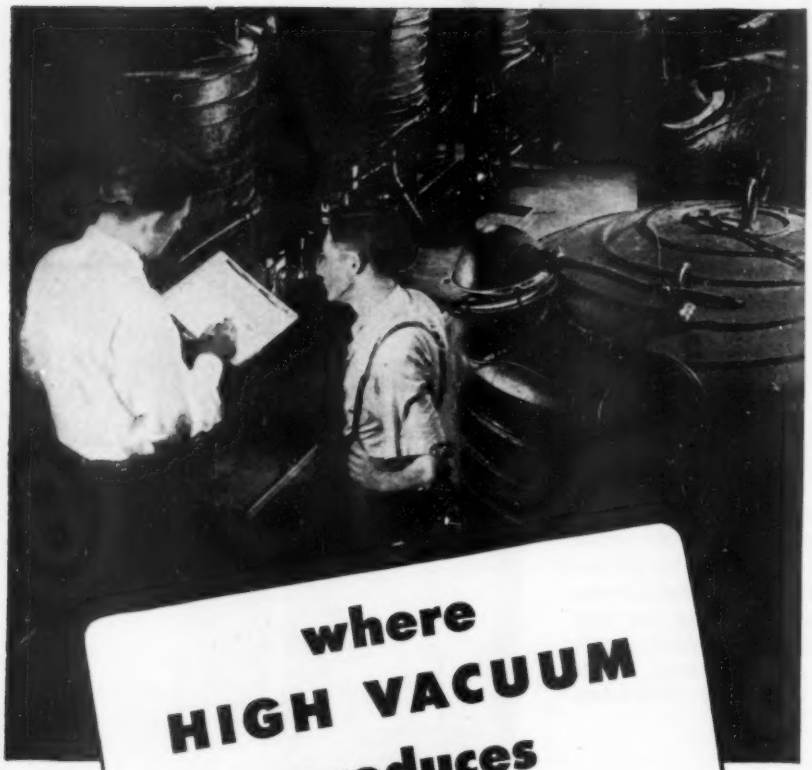
THE YOUNGSTOWN SHEET AND TUBE COMPANY

YOUNGSTOWN OHIO

Manufacturers of

CARBON - ALLOY AND YOLOY STEELS

Pipe and Tubular Products - Sheets - Plates - Conduit - Bars - Tin Plate
Rods - Wire - Nails - Tie Plates and Spikes - Alloy and Yoloy Steels



where HIGH VACUUM produces VITAMINS

High-vacuum technology at work. Part of DPI's molecular still room. Torkel Korling photograph.

THOSE odd shapes in the photograph are some of the many high-vacuum molecular stills which turn smelly, low-potency fish liver oils into bland, odorless, stable, high-potency concentrates of vitamin A.

The production of these Vitamin A Esters* concentrates is one of our principal activities here at DPI. The production of high-vacuum pumps, gauges and other equipment is another principal part of our business. In the still room pictured here, they work together. In fact, our vitamin "production line" has been the birthplace of many notable improvements in our high-vacuum equipment. And these vacuum equipment improvements in turn have helped us to produce more and better vitamin concentrates.

This hard-won experience of DPI in two distinct but related fields may be of great value to you. We invite your inquiry.

*Protected by U. S. product patent No. 2,205,925 and more than 50 process patents.

Distillation Products, Inc.

DP INC

Pioneering High-Vacuum Research

755 Ridge Road West, Rochester 13, New York

"Headquarters for Oil-Soluble-Vitamins and High Vacuum Equipment"

WAR BUSINESS CHECKLIST

A digest of new federal regulations affecting priorities, price control, and transportation.

Increased Civilian Supply

Manufacturers of **garment hangers** are allowed, in the second quarter of 1944, 15% more iron and steel than they were formerly allowed in making garment hangers for civilians (Direction 2, WPB Order L-30-d). . . . Schedule I, as amended, of WPB Order L-157 permits the production of specified sizes and types of household **furnace scoops** and **snow shovels**, provided they are made from idle or excess inventories of steel.

Relaxation of Priorities

Provisions of War Food Order 86 requiring the use of additional rosin in soap have been removed since the supply of rosin has decreased and the stock of fat, for which rosin was substituted, has increased. . . . The use of lead-free **zinc oxide** has been authorized in laboratory reagent chemicals, cellulose nitrate plastics, vulcanized fiber, and toilet soap, by WPB Order M-11-a, as amended. . . . By amending Schedule I, Order L-154, WPB has freed bronze for use in the manufacture of **water meters** of one-inch size or smaller. . . . WPB Order L-193-a, as amended, rules that inventory restrictions on **sprocket chains**, sprocket chain attachment links, and wheels do not apply to stocks of such items for automotive replacement parts, as defined in Order L-158, as amended, or to minimum production runs. . . . All restrictions on residual frozen stocks of completely fabricated copper and copper-base alloy **shoe findings** (eyelets, hooks, nails, screws, and other parts) in manufacturers' inventories will be removed on July 16 by WPB Order M-9-c-1, as amended, which also permits the use of copper in conductive and nonsparking shoes for defense workers and in findings for loggers' boots.

Furniture

To bring prices for **frames** for upholstered furniture into line, OPA has ruled that manufacturers of these frames may, under certain conditions, add a 5% adjustment charge to present ceiling prices on frames delivered on and after May 9. This increase will compensate for the higher cost of lumber, and will bring the industry's earnings up to those of the normal years, 1936–1939. (Amendment 6, Order 1052, Regulation 188.)

Cotton Textiles

WPB has adopted an urgency rating pattern to regulate production of all cotton fabrics, cotton yarns, cordage, and twines

on the basis of their importance for war and essential civilian products. All cotton textile mills are rated from 10 through 1 according to the essentiality of their products. The War Manpower Commission's manpower priority committee will allocate any new labor to those mills producing goods with the highest rating (10). This will be assigned to items going primarily to meet urgent and behind-schedule military demands; to most weaving and knitting yarns; to specified twines and cordage; cotton ducks; and others.

Electric Motors

Because few discarded motors are getting back into circulation, OPA has established a new method for pricing rebuilt fractional horsepower electric motors—needed to run refrigerators, washing and ironing machines, vacuum cleaners, and other household appliances—to draw out a supply of these motors to meet critical civilian requirements. The new method establishes retail prices for motors of ¾ horsepower or less at 75% of the list price of the nearest equivalent new motor, plus $7, plus specified allowances for exchange or trade-in value of a used motor. At other than retail levels, the maximum price will be 85% of the retail price as determined by this method. Previously, 85% of the new base price was the maximum allowed for a rebuilt motor. (Amendment 144, Revised Supplementary Regulation 14; Amendment 119, Regulation 136.)

Farm Machinery

Reserve of 15,000 tons of carbon steel and proportionate amounts of other controlled materials have been set up by WPB for the third quarter of 1944. The reserve will be used, with idle and excess inventories, in the production of farm machinery and equipment over the regular quotas. Manufacturers who wish to increase their quotas of any item listed in Schedule B of Order L-257, and new manufacturers without quotas, should apply, not later than June 26, to WPB's Farm Machinery & Equipment Division, on Form 3788. Small plants

ARMY E NAVY

Aircraft Specialties Co.
Lindenhurst, N. Y.

Converse Bridge & Steel Co.
Chattanooga, Tenn.

Food Machinery Corp.
Hoopeston, Ill.

The Insinger Machine Co.
Philadelphia, Pa.

Tampa Shipbuilding Co., Inc.
Tampa, Fla.

(Names of winners of the Army-Navy and Maritime Commission awards for excellence in production announced prior to this new list will be found in previous issues of Business Week.)

INTERNATIONAL makes chain for *every* essential need: industrial, marine, farm, automotive. And International's manufacturing and service facilities are complete in every detail.

INTERNATIONAL CHAIN & MFG. CO.
YORK PENNA.

The CAMPBELL Line

WHEN VICTORY COMES and the country returns to peace time conditions, you will find American industry generally will rely more than ever on the dependable performance of Timken Bearings.

Millions of automobiles, trucks and busses that are now Timken Bearing Equipped will run efficiently for years. So will millions of new cars to be produced in the post war period.

The great modern streamlined trains with giant locomotives, as well as billions of dollars worth of machine tools and all types of industrial machinery will depend on the ever dependable Timken Bearing.

TIMKEN
TAPERED ROLLER BEARINGS

Copyright 1944 by The Timken Roller Bearing Co.

THE TIMKEN ROLLER BEARING COMPANY
CANTON, OHIO
Timken Bearings, Timken Alloy Steels and Tubing and Detachable Rock Bits

do not need special permission to participate in the program, provided that they do not need additional controlled materials. (Direction 4, Order L-257.)

Paper

Though WPB warns that the over-all paper situation is still critical, no substantial reduction is looked for in third quarter paper allotments to civilians for the printing and publishing industry (both book and magazine). Allocations of pulp for making many kinds of paper have had to be reduced for the third quarter, however, and certain paper mills will be forced to curtail operations. Four committees to study newspaper and newsprint problems in particular have been appointed; they will report to WPB on July 11.

Magazine reprints that are ordered and paid for exclusively by a department or agency of the government will not be charged against the magazine publisher's quota. Such reprints are ruled to be "commercial printing" under WPB Order L-241, and as such, are unrestricted. (Direction 1, Order L-244.)

Halibut

To restore normal distribution and check black market activities, all Pacific halibut landed at U. S. ports on the Pacific Coast and in Alaska will be allocated among dealers. After June 23, purchases may be made from fishing vessels only by use of a permit from the Office of the Coordinator of Fisheries in Seattle. Permits will be issued upon request to persons who dealt in halibut during 1941, 1942, or prior to July 13, 1943; others must satisfy the coordinator that any new operations will not interfere unduly with the existing market or with the programs of OPA and the War Food Administration.

Inventories

WPB has explained in an interpretation of Controlled Materials Plan Regulation 2, controlling inventory, that persons whose war contracts are reduced or canceled will not be violating the regulation if their stocks of materials on hand after a cutback amount to more than a practicable minimum working inventory (or, in the case of controlled materials, to more than a 60-day supply). WPB stressed the fact that inventories are restricted on an item basis, not on a material basis. (Interpretation 3, CMP Regulation 2.)

Milling Machinery

To keep step with increasing demand, WPB has raised production quotas of milling and processing machinery for flour, grain, and feed 15% under an amended schedule that simplifies controls and reporting requirements. For the remainder of the fiscal year Oct. 1, 1943–Sept. 30, 1944, controlled materials will be available for grinding, mixing, feed separating, and grading machinery at the rate of 150% of base-period use (average tonnage used in 1939, 1940, 1941). Manufacturers of other cereal, flour, and grain milling machinery may use

All of American's Prints Are Ozalid Whiteprints

At American Airlines they speak of "the *whiteprint* of things to come." Here . . . print production is one hundred percent Ozalid—no blueprints.

They're making Ozalid whiteprints of their engineering and isometric drawings, weather reports, flight analyses, and office forms.

What's most important, they're saving time, labor, and materials.

WILL OZALID HELP YOU ALSO?

If your drafting output has reached the point where it would be more economical to do your own printmaking . . . by all means investigate the savings possible with an Ozalid whiteprint machine.

If you have already installed expensive blueprinting equipment . . . you can add a Dry Developing unit, which when used with your present Printer, will provide all the advantages of Ozalid printmaking.

ONLY OZALID GIVES YOU THIS VERSATILITY

With Ozalid you're not limited to one-color reproductions. You can make prints having blue, black, or maroon lines on a white background. This allows you to assign identifying colors to different departments, to distinguish checked from unchecked prints, etc.

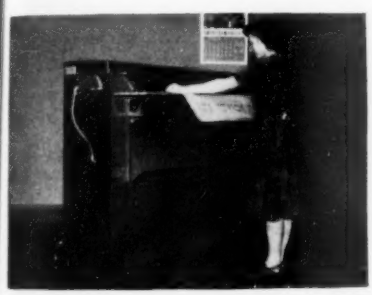
With Ozalid you can use cut sheets as well as roll stock. By ordering sheets cut to the size of your tracings, you can completely eliminate trimming waste.

With Ozalid you can use a wide selection of foils and transparent materials—an impossibility with other methods. You can employ these to reclaim the details of soiled or worn tracings . . . to make composite prints . . . and duplicate originals to be used instead of the original tracings in subsequent print production.

All Ozalid Prints are produced in the same manner. Dry Development eliminates variations in production.

These Ozalid features will give you a "head start" in production.

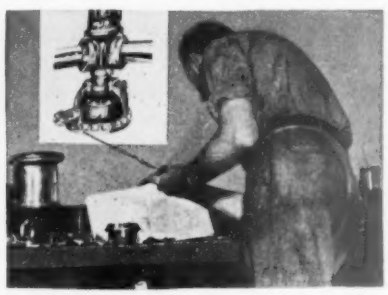
PHOTOGRAPHS—COURTESY OF AMERICAN AIRLINES



1 An Ozalid machine is clean, compact, and may be installed in a corner of the drafting room. Any inexperienced person can operate it. *ALL* prints are produced in the *same* continuous operation which incorporates *Exposure* and *Dry Development.*

No baths, driers, or plumbing connections.

2 When making design changes, it's never necessary for the draftsman to redraw any lines which remain the same. Ozalid saves valuable time. Make a "duplicate original" of the tracing. Then, delete the obsolete sections with Ozalid Correction Fluid — and draw in the new design. It's that easy!



3 Ozalid whiteprints of engineering and isometric drawings enable even inexperienced workers to grasp production details quickly. They are easier to read and check than blueprints and are preferred in the shop and field. Pencil or ink notations can be recognized immediately.

WRITE FOR CATALOG AND SAMPLES OF OZALID WHITEPRINTS

OZALID PRODUCTS DIVISION

GENERAL ANILINE AND FILM CORPORATION

JOHNSON CITY, N. Y.

OZALID IN CANADA—HUGHES OWENS CO., LTD., MONTREAL

P.S. Some More Ozalid Users:

1. Pratt & Whitney Aircraft Division
2. United States Rubber Company
3. Bethlehem Steel Company
4. Emerson Radio & Phonograph Corp.
5. Ford Motor Company
6. Cramp Shipbuilding Company
7. International Business Machines Corp.
8. Edward G. Budd Manufacturing Co.
9. North American Aviation, Inc.
10. Boeing Aircraft Company

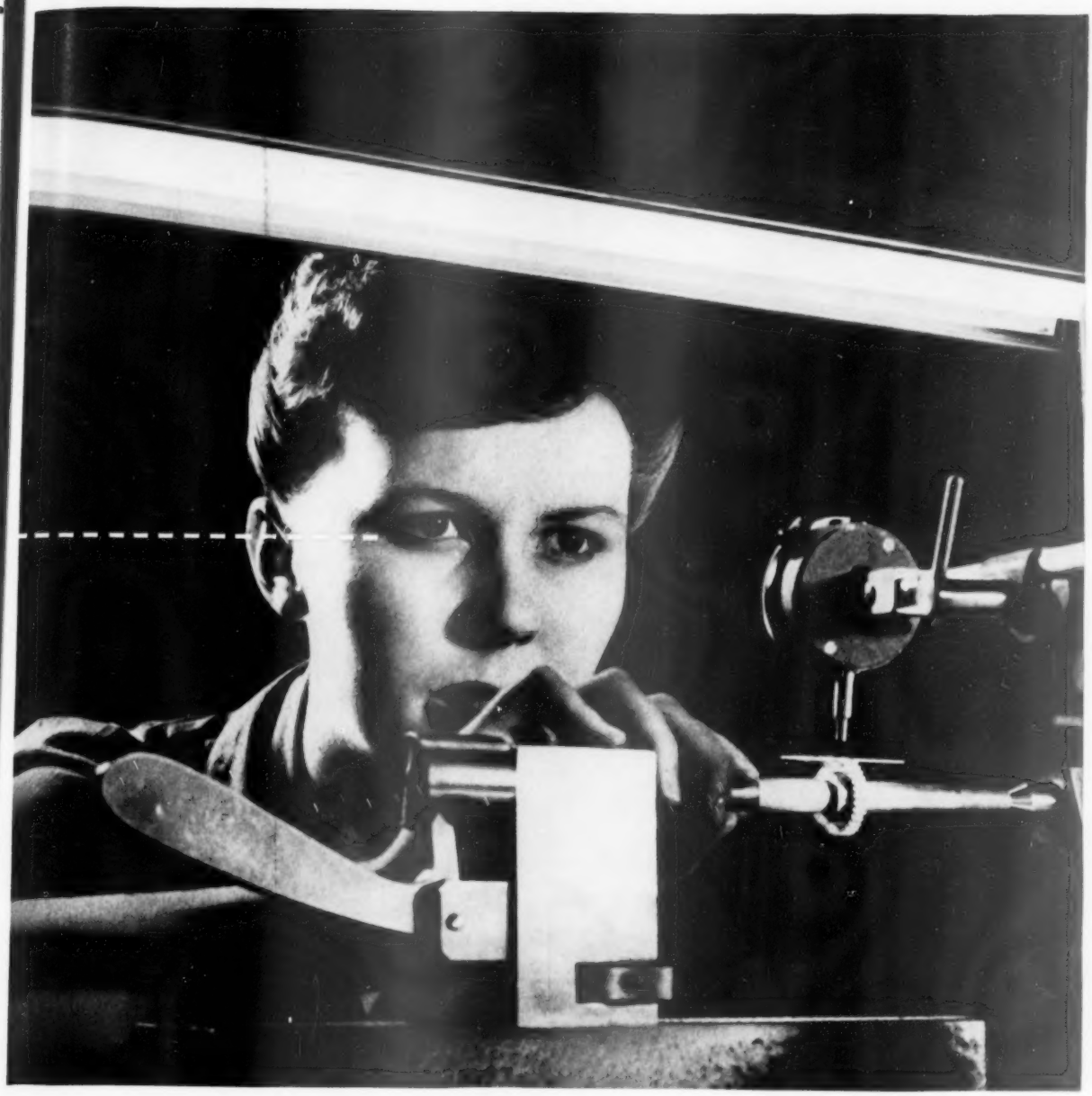
★ It is not enough that our fighting men should have more planes, guns, tanks and supplies than the enemy. They must also have the finest. Thanks in no little measure to See-ability, American arms today are the finest—as well as the "mostest." With See-ability to aid them, eyes that back the attack can now work to tolerances as close as 1/10,000th of an inch with speed and assurance. Under the See-ability conditions made possible by today's high-efficiency Westinghouse Mazda Lamps, precision work is done more efficiently in less time—with fewer errors and less fatigue.

EYES THAT BACK THE ATTACK MUST BE SURE

When today's big war production job is done, these higher lighting standards developed by Westinghouse engineers will bring See-ability benefits to America's peacetime factories, offices, stores, schools and homes. Be sure to include See-ability with bright, long-lasting Westinghouse Mazda Lamps in your post-war plans. And for practical help in your planning, consult your local Power Company or Westinghouse Distributor.
Westinghouse Electric & Manufacturing Co., Bloomfield, New Jersey.

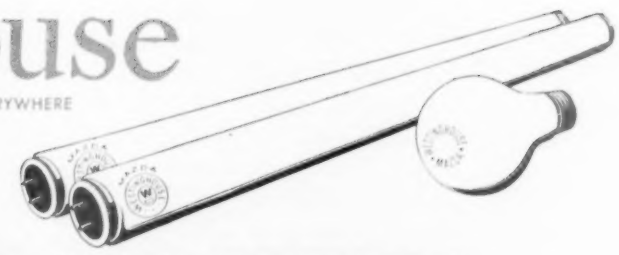
LET'S ALL KEEP BACKING THE ATTACK . . . BUY MORE WAR BONDS!

TOMORROW . . .
Soft, eye-easy fluorescent light for school rooms and many new and dramatic uses for light as a salesman in stores, are just two of tomorrow's lighting benefits predicted by Westinghouse engineers. Take advantage of Westinghouse technical progress and research in lighting, make high-efficiency Westinghouse Mazda Lamps a must in your light-planning for tomorrow. And for leadership in lighting, watch Westinghouse!



Westinghouse

PLANTS IN 25 CITIES .... OFFICES EVERYWHERE



MAZDA LAMPS FOR SEE-ABILITY

WESTINGHOUSE PRESENTS JOHN CHARLES THOMAS • SUNDAY 2:30 EWT., N.B.C. • "TOP OF THE EVENING" • MON. WED. FRI. 10:15 EWT., BLUE NET.

GANGWAY FOR A GOOD SOLDIER!

Mama has decided that her two young men should meet each other.

And he's off to see his daddy—for the first time!

We may not be able to give them the kind of ride we'd like to. Trains will be crowded. Some coaches may not be as comfortable and convenient as our best equipment. They may have to wait on sidings as troop and munitions trains get the right of way.

But service men and their relatives are good soldiers. They take inconveniences in their stride, understanding that the railroads are doing the best they can to bring them together.

With traffic so heavy, the railroads cannot always maintain all their prewar standards. But they are keeping their dates with convoys, and fighting all the emergencies that go with the world's biggest transportation job. They're working as they have never worked before and are determined to do their level best to help get the job done, and done as speedily as possible.

BUY MORE WAR BONDS

ASSOCIATION OF
AMERICAN RAILROADS
ALL UNITED FOR VICTORY

100% of the controlled materials used in the base period (Schedule VI, as amended, Order L-292).

Coal

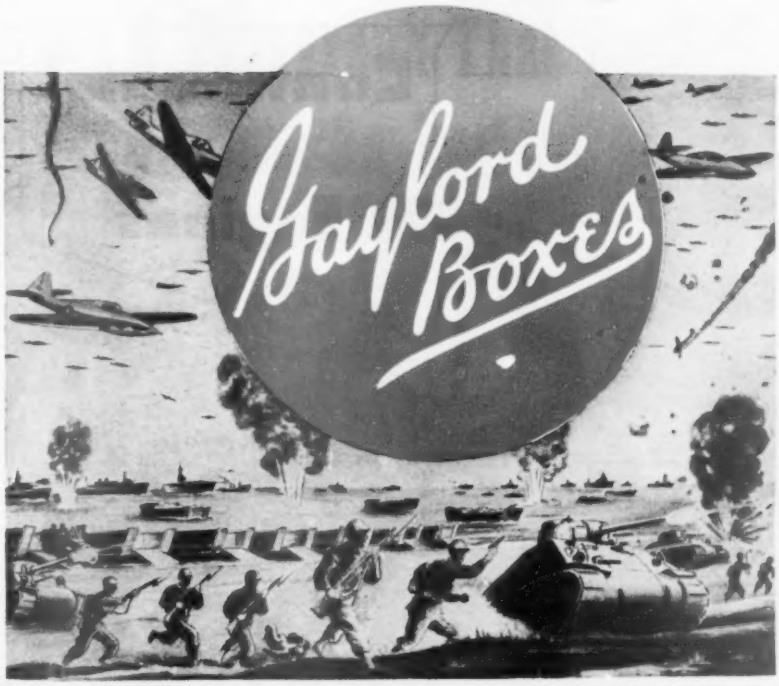
Dealers in coal and other solid fuels who determine their ceiling prices by formula may apply for higher ceiling prices to take care of increased transportation costs on coal delivered to them. This OPA ruling is applicable when the cost of transportation from a supplier to a dealer by common or contract carrier has increased over costs paid during December, 1941. Application for relief may be made to OPA regional offices or direct to OPA in Washington. (Amendment 24, Revised Regulation 122.)

Other Priority Actions

To halt the practice of buying **tobacco** while it is still growing and to assure a more equitable distribution, future-contract purchases of almost all types of cigar filler and binder tobacco of the unharvested 1944 crop are prohibited under War Food Order 46. . . . WPB Direction 16, Controlled Materials Plan Regulation 2, permits users of **alloy steel tubing** (other than airframe and engine tubing) to accept specified amounts of this material even though their resulting inventories may exceed the 60 days' supply limitation; such users may not accept more tubing until their inventories are again within the prescribed limits.

Other Price Actions

Because of the small number of new 1942 **automobiles** available (BW—Jun.17 '44,p34), OPA has, by Amendment 12, Ration Order 2B, tightened up on eligibility rules for buyers. . . . To conserve vital fiber supplies, OPA has increased by 7½% manufacturers' ceiling prices for the only weight of chemical woodpulp **mimeograph** paper now available for civilian use (Amendment 3, Regulation 450). . . . OPA has authorized increases in present ceiling prices of commercial **glass bottles** or containers and wide-mouth glass containers sold by "producing" manufacturers to other manufacturers, provided that the increase is absorbed by the purchasers (Amendment 6, Regulation 382; Amendment 40, Order A-1 under Section 1499.159b of Regulation 188). . . . To bring maximum prices of certain small producers of steam-distilled turpentine and dipentine in line with current competitive levels, and to encourage essential production of wood rosins, Amendment 142, OPA Revised Supplementary Regulation 14, increases ceiling prices for several **wood naval stores** products. . . . Amendment 3, OPA Regulation 472, establishes maximum prices of $2.925 a pound for sales of imported **lemon oil** by government agencies to dealers, and $3.25 a pound for dealers' sales to industrial users and drug wholesalers. . . . Military salvage dry **batteries** may be sold for 80%, and military scrap dry batteries for up to 50%, of March, 1942, prices for the most closely comparable civilian battery, upon approval of OPA district offices (Amendment 143, Revised Supplementary Regulation 14).



The Invasion Is On!

Play Your Part By Buying More War Bonds Than Ever Before

GAYLORD CONTAINER CORPORATION
General Offices: SAINT LOUIS

CORRUGATED AND SOLID FIBRE BOXES
FOLDING CARTONS...KRAFT GROCERY BAGS AND SACKS...KRAFT PAPER AND SPECIALTIES

New York • Chicago • San Francisco • Atlanta • New Orleans
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Continental
Red Seal
Engines

POWER TO WIN

Tank engines are extraordinary engines. They possess brute strength, herculean stamina and unlimited endurance. They are built to faithfully deliver dependable power under toughest conditions.

The Continental Red Seal Engines which predominate in both light and medium tanks are this type of engine. Designed for compactness, accessibility and for quick replacement when damaged, they are also engineered to do the job.

Field service trucks working behind the front lines in all battle areas are also utilized to speed maintenance of fighting equipment are also powered by another type of Continental Red Seal Engine.

Your Dollars are Power, Too!
Buy War Bonds and Keep Them.

ARMY E NAVY

Awarded to the Detroit and Muskegon Plants of Continental Motors Corporation for High Achievement

Continental Motors Corporation
MUSKEGON, MICHIGAN

PRODUCTION

Silicosis Therapy

Lung disease, traditional mining and dust hazard, yields to treatment using aluminum dust as an inhalant.

In 1932, McIntyre Research, Ltd., began experimenting with preventives and treatments for silicosis, the dread pulmonary disease which afflicts workers who have to breathe silica dust. In 1934, the Metropolitan Life Insurance Co. studied the disease's prevalence and effect in generating tuberculosis, concluded that the more than one-half million employees who worked in silica-loaded air were exposed to one of the worst of industry's health hazards.

After discovering what promised to be a fruitful new line of experiment in 1939, McIntyre Research started intensive testing among employees of the McIntyre-Porcupine gold mine in Timmins, Ont., and this week, reporting in the Canadian Medical Assn. Journal, the scientists were able to report that their treatment "would appear to be followed by beneficial results in a significant proportion of cases."

• **May Be Great Boon**—Behind the overcautious language which characterizes the announcement of all medical discoveries, industrial health experts saw in this one the promise of a boon long sought. If wider application of the treatment brings results comparable to those reported in the tests, substantial health, social, and economic benefits will result. Silicosis not only shortens work life, but has high mortality as well.

• **Uses Aluminum Powder**—The McIntyre treatment consists of simple inhalation of aluminum powder. The granules used are produced by pounding small pieces of thin aluminum sheets into a fine dust, a process devised at the Pittsburgh plant of the Aluminum Co. of America. When inhaled, this powder reacts on the lethal silica particles, coating them with a thin gelatinous film and inhibiting their serious effect on the human organism.

The experiments at McIntyre began with 41 men, of whom 34 went through the complete treatment. Subjects started with a five-minute inhalation of the aluminum powder, stepped up the dosage to 30 minutes, and continued the treatment over a period of almost a year in some cases.

• **Marked Improvements**—At the end of that period, 19 of the 34 men showed

clinical improvement. Disappearing or appreciably lessening were shortness of breath, coughing, chest pains, and fatigue.

The other 15 cases showed neither improvement nor deterioration. But doctors considered this notable because the men involved had continued their exposure to silica dust. Other men under observation who were untreated by aluminum therapy showed progression of their silicosis in six of nine cases.

• **Larger Group Studied**—Larger testing was then undertaken at Washington, Pa., where subjects came from brick-making and refractory plants, foundries, rock quarries, and sand-blasting jobs. An initial group of 33 diseased subjects who had been exposed to concentrations of 17% to 97% free silica, all showed improvement. A second group of 452, among whom were 143 disabled silicotics, was also tested. Results showed improvement in 135 of the serious cases, with six unchanged and two getting worse. Comparable beneficial effects followed the treatment in the less serious cases.

• **Can Cut Death Rate**—Definitely not a substitute for dust control programs, the new treatment appears to its researchers to have both preventive and therapeutic values. It cannot restore lung tissue to normal after fibrotic change has developed, but if it lives up to its experimental results, it will be a great stride forward in industrial medicine. One of its first direct results might be to reduce death rates in mining operations and depress compensation insurance rates.

BURRS TESTED FOR FEED

Use of cotton burrs as a base, or added fiber, for stock feed is being tested by the War Food Administration in laboratory experiments made in conjunction with the Dept. of Agriculture.

Cottonseed hulls, the thick coating around the seed kernel, have been used successfully as stock feed. Cattle often graze in picked-over cotton fields, and when feed is short they eat the cotton burrs. But feed manufacturers who have experimented with the burrs have found that at best they merely add fiber and some mineral, providing little attraction as a feed.

If WFA's experiments prove more satisfactory, WPB may be asked to grant priorities for building a plant to process the burrs, which are now hauled away from many gins and burned. However, cattle and sheep men are dubious of the possibilities.

Other experiments have shown that cotton burrs may be utilized in making fiberboard, paper, and pulp products.

¶ A Paragraph That H... Become An Institu...

Market Basket
By HYMAN H. COHEN
Watermelons are available in a small way in local shops. First offering of the season from the Imperial Valley are shown and while the price is high, it has been higher for initial supplies of other years. As matters stand, much lower prices will be in effect on watermelons on future shipments as new ceiling values are ef-
former very moderate
asked. There's still some
good hard shell clams arou
cents a pound too. Crabs a
their best.
FINE PERCH TOO
While there is a shortag
fancy fresh salmon, some
celient so-called salmon
are offering and there's
excellent sea perch in sigh
fish are still very good,
barracuda are also avail
a few places. Shad is offe
by the whole fish and
dressed. Some shad roe too
GENERAL PRICES RULE

THE afternoon of March 10, 1902, the Oregon Journal first appeared in Portland. That morning the city editor tossed a few scraps of paper on the desk of a young reporter and barked: "Here are some Chicago market reports you can cut and paste. While you're at it better call some of the commission men and get a couple of paragraphs about the local markets."

The city editor didn't know it, but he was starting a chain of events that was to culminate in a new kind of reporting of local market news for consumers . . . and a lifetime career for that young reporter, Hyman Cohen.

The "Market Basket" Is Born

Young Cohen wasn't satisfied to edit telegraph copy, paste government market reports and get his local news on the phone. He was convinced that housewives would be interested in news about the local supply of food stuffs, particularly perishable and semi-perishable items. He believed that local wholesale markets for these products should be covered the same as local sports, the city hall or courts . . . by firsthand eye-witness reporting.

And so young Cohen began a daily article called the "Market Basket" written for Portland homemakers. That he gauged correctly the interest of women in the supply and prices of foods is evidenced by the fact that in the past 42 years the "Market Basket" has grown from a paragraph to an institution.

During these four decades Hyman Cohen has begun his work day at 2:00 a.m. First he visits with the farmers dozing on their trucks as they wait to sell their fruits and vegetables on the great East Side Farmers' market. There he chats with the retailers as they select and buy their perishable merchandise for the day. Then he makes the rounds of the produce houses, wholesalers and commission men.

Before 7:00 a.m., when most of his readers are just arising, he is back at his desk in The Journal's city room. There he writes the "Market Basket" for Portland housewives. Then he is ready to work with his staff in the writing and editing of The Journal's market page.

Three generations of Portland housewives have relied upon Hyman Cohen's "Market Basket" in The Journal. It tells them what seasonal fruits and vegetables, seafoods, poultry and dairy products are in the market, which are plentiful and favorably priced. It's the housewives' Baedecker for planning shopping trips. It's their guide when they schedule their canning programs.

THE "MARKET BASKET" symbolizes the spirit of enterprise that exists on The Journal's staff. It is the creation of a man who believed that there was a better way of doing his job than the usual way. He is typical of the men and women who staff every department of The Journal. They are all loyal, hard-hitting, hard-working newspaper men and women . . . taking on jobs not in their strict line of duty . . . spending their brains and energy freely in creating the best newspaper they know how!

. . . If you lived in Portland you'd read

THE JOURNAL
PORTLAND, OREGON
Afternoon and Sunday

Represented Nationally by REYNOLDS-FITZGERALD
Member: Metropolitan and Pacific Parade Groups

Pep for Metals

Shot blasting technique boosts the fatigue resistance of steel parts, thus extending life of automotive engines.

The vast growth of the technique of using shot blasting to increase fatigue resistance of steel parts has been one of the major technological improvements of the war period. Life of automotive engines and other fatigue-prone mechanisms will be extended in the postwar world, as a result.

• **Old Practice**—The cold-working of metal—peening, in more technical language—is nothing new. The old-time blacksmith peened buggy springs and axles with a hammer to lend them strength.

Yet the idea of cold working with a blast of steel shot never entered modern technical minds until a few years ago. Then, in late 1942, J. O. Almen of the General Motors research department reported to fellow metallurgists that shot blasting was not only a metal surface finishing process, but a fatigue-life lengthener as well.

• **Accepted Practice**—Today, less than two years after the first Almen findings appeared, blast peening is taking a place alongside of alloy specifying and heat treatment as a means of amplifying the life of metal parts. It has become standard for hundreds of uses in as many plants.

The Almen thesis, while complicated, may be stated simply. Fatigue failure, he maintains, results from tension stresses and never from compressive stresses. Compress the case of a steel part, therefore, and it becomes so much farther removed from tension failure.

• **Extends Life of Parts**—The claim that compression never results in fatigue failure has been much argued. But critics are unable to explain the findings of tests which establish that compression of surfaces by shot blasting lengthens the effective life of parts.

Both hard and soft steels are given better fatigue characteristics by shot blasting. In some instances the life of gears has been reported multiplied six or seven times. Springs are said to last 13 or 14 times as long as normal in some instances after a shot peppering.

The technique is essentially the same one employed to put a smooth, bright finish on a part. The piece is simply exposed to a blast of steel shot of size and intensity specified for the particular job. Blast cycles are likely to be brief, because exposure longer than 30 sec. or so does not seem to increase strength and may sometimes reduce it. Even ultrafine polishing grains, no more than powder, are found to cut down steel's vulnerability to fatigue in some slight degree.

• **Not Expensive**—Preferably the surfaces are sprayed as directly as possible, rather than at an oblique angle which may have the effect of undercutting. This makes the use of rotating holding fixtures desirable, particularly on irregularly shaped objects.

Obviously the process is not expensive. It requires chambers to house the parts during blasting, spray guns, and shot. But the work can be done automatically or with a minimum of fairly unskilled supervision, and can be set up as part of a production line.

• **Opens New Markets**—Apparatus used divides broadly into two types. One centers around a centrifugal wheel whose rapidly turning vanes receive the shot and propel it through a nozzle. The other variety uses compressed air rather than the wheel. In either case shot strikes the part at speeds ranging upward from 200 ft. a second, as desired.

Companies which have produced shot blasting equipment in the past are opening up new markets for their products as a result of the peening applications found so worthwhile.

As yet, no new names have achieved nationwide prominence, despite the widening of the market. Such standbys in the shot blasting field as Pangborn Corp., Hagerstown, Md.; American Foundry Equipment Co., Mishawaka, Ind.; W. W. Sly Mfg. Co., Cleveland; and George F. Pettinos, Inc., Philadelphia, continue the leaders.

Cash on the Cob

Market for Corn Belt's waste is seen in its use as a raw material of furfural, a refining agent in butadiene manufacture.

Every now and then somebody comes up with a new idea for commercializing corncobs. Practically all such ideas end with the farmer's burning cobs to get rid of them. Most promising prospect so far is their use as a raw material of furfural—a refining agent now greatly in demand for manufacturing butadiene from petroleum, as well as for other industrial uses (BW—Jul.11'42,p70).

• **War Creates Shortage**—Furfural has been known for about 100 years, but Quaker Oats Co. began developing commercial uses for it about 20 years ago.

Ordinarily the company has more than enough hulls to meet the country's furfural requirements, with plenty left over for animal feed. But war uses have increased the demand for furfural four or five times over prewar production. Hence the necessity for hunting a new source of furfural.

• **Ground by Collectors**—Since last November Quaker Oats and its subsidiary, Q. O. Chemical Co., Memphis, have been buying carloads of corncobs ground in hammer mills from local collectors operating in dozens of communities throughout the Corn Belt.

These collectors pick up cobs at the farms—usually free, in return for hauling them away—grind them so they will pass through a 1-in. screen, and ship

Portable corncob mills that travel from town to town in central Illinois save time and shipping costs by cutting and loading the cobs almost at the source of supply. These machines grind to convenient size for chemical uses.

G.I. Joe and his 12 tons of baggage

WHEN an American soldier goes overseas, between five and twelve *tons* of equipment must go with him. And . . .

Another ton must be sent to him *every* month, in food, clothing, and ammunition.

Who sees that he gets it?

The colossal task of supplying our millions of men is the responsibility of the *Army Service Forces.* Theirs is the job of designing, procuring, and transporting every item of Army equipment except airplanes and items peculiar to the Air Forces.

From the time a soldier is sworn in, until his discharge, the ASF takes care of him. It feeds him the world's best army food, outfits him with the finest clothing, and supplies him with the most modern weapons. And it carries on a vast research program to insure still better equipment.

The ASF delivers a soldier's mail, pays him, provides religious services for him, and gives him the best of medical care.

The ASF is the biggest business in history. Without batting an eye, it fills rush orders from all over the world for stupendous quantities of some *half a million* different items—from aspirin tablets to steamboats.

Because the outcome of battles depends so much on getting supplies *where* they are needed, *when* they are needed, the motto of the ASF is "Enough and On Time."

The amazingly efficient way in which the men of the ASF are living up to their motto has made today's American soldier the best-fed, best-clothed, best-equipped, and best-cared-for fighting man in history.

Back the attack!—BUY MORE THAN BEFORE!

INSIGNIA OF ARMY SERVICE FORCES

Quartermaster Corps · Ordnance Dept. · Corps of Engineers · Chemical Warfare Service · Signal Corps · Medical Corps

Judge Advocate General's Dept. · Chaplains (Christian and Jewish) · Military Police · Adjutant General's Dept. · Finance Dept. · Transportation Corps

SPERRY

CORPORATION

30 Rockefeller Plaza, New York 20

This message is published by Sperry to foster a wider appreciation of the Army Service Forces as the vital link between the production front and the fighting front. Sperry cooperates with the ASF through these divisions:

FORD INSTRUMENT CO., INC.
SPERRY GYROSCOPE CO., INC.
VICKERS, INC.
Waterbury Tool Division, VICKERS, INC.

them to Memphis, or to Quaker Oats' Cedar Rapids (Iowa) plant, for $14 a ton.

• **Difficult to Handle**—The companies are now using ground corncobs "in fair amounts" (along with rice hulls, cottonseed hulls, and cottonseed hull bran), but are limited by unloading problems.

Cobs ground in a hammer mill are difficult to handle. Instead of flowing freely, as grain does from an elevator, the particles of corncobs stick together in a mass—"like a bunch of fishhooks," as one company official put it. For that reason every carload of ground corncobs (about 22 tons) has to be unloaded with a suction system—which works fine, but isn't fast enough. The Memphis plant used about 3,900 tons of ground corncobs in May—but a suction system can't unload more than five or six cars daily. The rate of unloading is more likely to be one or two cars a day if the material is wet or unusually full of hulls.

• **Machine Developed**—Quaker Oats is now readying a new machine which will grind cobs and compress the particles in the same operation.

Such machines, set up at strategic points in the Corn Belt, would overcome present unloading difficulties, as well as the expense of collecting. For economical postwar handling, the company figures its best bet will be to get cobs from hybrid seed producers, rather than in small quantities from individual farmers.

• **Prospects**—But whether the present market for cobs survives the war depends on the postwar demand for furfural (which, in turn, depends for a major market on the production of butadiene) and on comparative price of oat hulls.

Right now oat hulls are more expensive than corncobs, despite the cost of collecting and grinding. But once farmers realize that there's cash in those corncobs, the price may go up and put the cobs out of line with the cost of competitive raw materials.

Coal for the Soil

Processed bituminous is used by Pittsburgh firm as base for a fertilizer and soil builder. Higher nitrogen yield claimed.

Coal, its uses increasing, may have a greater postwar outlet in the production of fertilizers and soil builders.

After ten years of experimenting and testing, the American Soil Builder Co. of Pittsburgh during the past year has been marketing Soilex, which contains chemically processed coal as a soil conditioner and balancer. When coal is more plentiful after the war the company plans a series of plants located near large consuming areas and ra[il] materials supplies to augment its lone plant at Noblestown, Pa.

• **Heat-Treated**—The producers of Soilex claim their product is the only commercial plant food which contains coal rich in humus needed by some soils. In Germany years ago, sulphuric acid was used to break down coal that formed the basis of a fertilizer, but the acid content was harmful to the bacteria. An indirect heat process is employed in making Soilex to release the bacteria in the coal.

Bacterial activity frees the inherent mineral foods in the soils, thus increasing the fertility. When bacterial activity is favorable, for instance, 60 lb. to 70 lb. of nitrogen per acre are obtained, compared to 5 lb. to 10 lb. per acre when activity is slow or at a minimum.

• **Other Fertilizing Elements**—Besides the 35% of processed coal, Soilex contains such fertilizing elements as nitrogen, phosphate, and potash, as well as other soil-conditioning materials. Because they yield larger quantities of chemicals, the lower grades of bituminous coal are utilized.

Soilex is described by its producers as a synthetic manuring material containing humus, minerals, and bacteria (absent from ordinary chemical fertilizers). Tests indicate that one ton of Soilex will do the work of as much as four tons of ordinary fertilizer. Users are cautioned not to spread it too liberally.

• **Higher Yields Claimed**—A soil builder as well as a plant food, Soilex, it is claimed, will increase the sugar and chlorophyl content in field crops, trees, fruits, and vegetables; give higher yields, better taste and color; hasten maturity; and aid plants to resist the blight of early frosts.

EVER FASTER

Action pictures under adverse light conditions with a small lens aperture to give over-all sharpness are now possible with Eastman Kodak's improved Super Panchro-Press film. Known as "Sports Type"—a modification of "Type B"—the film is reported to be the fastest ever available to news photographers but is slightly grainier than slower film. Enlarged from a section of a 4x5-in. negative, a racetrack action picture (above) illustrates the depth of field possible with the improved film. The picture was taken in late afternoon through a 17-in. telescopic lens at a shutter speed of 1,000th of a second, and through the relatively small lens opening of f16.

BIG RAMIE EXPERIMENT

Ramie, known in the Orient as "China grass," will be produced and processed on a broad experimental scale in the Florida Everglades by the United States Sugar Corp. and Newport Industries, Inc., both of Florida. The latter concern will direct the processing.

Similar in some respects to flax, ramie is a strong fiber (BW—Mar.13'43,p26) used in the manufacture of textiles, threads, canvas, ropes, and high-grade papers such as bank-note stock. The crop is prolific on the right soil, with from two to four crops annually being obtainable, and with an average yield of from 1,000 lb. to 1,500 lb. of fiber an acre.

Experiments in production of ramie

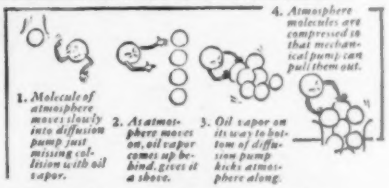
A surrealistic dream in glass

No—this isn't a surrealistic dream. It is a diffusion oil pump* designed by Eimac Engineers and used to produce the extremely high vacuum within Eimac Electron tubes.

Creating a vacuum is fundamentally a job of removing atmospheric and occluded gases from a restricted area. It sounds simple but as the atmosphere within the vacuum area becomes thinner it becomes increasingly difficult to pull it out. The reason for this fact is that the molecules of air or gas remaining, constantly distribute themselves evenly throughout the area. No one has yet produced a perfect vacuum, but this Eimac device used in conjunction with a mechanical evacuating pump will come mighty close to it.

Essentially this diffusion pump is an oil vapor generator. The vapor which it generates moves from top to bottom of the glass tube and, during the course of its rapid circulation, collides with the slowly moving molecules of atmosphere. Thus the molecules of atmosphere are compressed, a molecule at a time, to a density which can be handled by the mechanical pump. The characteristic of the oil vapor is such that it does not form gas which can be drawn into the vacuum area or sucked out by the pump.

The efficiency of this diffusion oil pump is one reason why Eimac Electron tubes are unconditionally guaranteed against premature failure due to gas within the tube. Thus this "Surrealistic Dream" is a good reason for you to prefer Eimac Tubes in whatever Electronic equipment you may be considering. Other reasons are: Vastly superior performance, long life and great stamina. All these reasons and more have made Eimac first choice of the leading Electronic Engineers throughout the world—first in the new developments in electronics.


1. Molecule of atmosphere moves slowly into diffusion pump just missing collision with oil vapor.
2. As atmosphere moves on, oil vapor comes up behind, gives it a shove.
3. Oil vapor on its way to bottom of diffusion pump kicks atmosphere along.
4. Atmosphere molecules are compressed so that mechanical pump can pull them out.

*Eimac HV-1 *Vacuum Pump is available to manufacturers and others who have need for producing high vacuum in research or production. Write for complete data.*

Follow the leaders to **Eimac** REG. U. S. PAT. OFF. **TUBES**

ELECTRONIC TELESIS—is a booklet you should have. It will be sent to you without cost or obligation. Ask for it on your business letterhead. There are over 60 pages of interesting information about Electronics and its applications. Fully illustrated and written so you can understand it clearly.

EITEL-McCULLOUGH, INC., 816 San Mateo Avenue, SAN BRUNO, CALIFORNIA

Exclusive manufacturers of Electron Vacuum Tubes and other vacuum devices used in the field of Electronics

Plants located at: San Bruno, Calif. and Salt Lake City, Utah

Export Agents: FRAZAR & HANSEN, 301 Clay Street, San Francisco, California, U. S. A.

More than one Navy man will use Clayton Boilers in his postwar business—for the same reason that make them favorites on fifteen types of fighting ships today.

These Flash Type Generators come to working pressure in five minutes . . . adjust themselves automatically from full load to heating only a few gallons of water . . . don't require a licensed engineer. With a Clayton Boiler there's no waiting for steam, no need to waste fuel carrying a full head for intermittent use.

Just now these compact, light-weight boilers heat the quarters and cook the food . . . supply hot water for washing clothes . . . steam for sterilizing, distilling or blowing whistles . . . and many other services on Navy motorships. After the war they will be available to do equally helpful jobs for food processors, cleaners, plastics molders, bottlers, tire vulcanizers and other industries.

Other Clayton products serving the Armed Forces are Kerrick Kleaners and Kerrick Cleaning Kompounds . . . Hydraulic Dynamometers . . . Feather Touch Hydraulic Valves . . . Boring Bars and Holders.

CLAYTON MANUFACTURING CO.

ARMY NAVY

ALHAMBRA CALIFORNIA

in the U. S. started in 1860, ...d crop... have been produced from Maryland down the coast to the tip of Florida, but the rich Everglades soil, said to be much like the finest ramie sections of China, is believed best suited to production in this country. The Florida experiment is the most extensive yet attempted.

Principal drawback is the difficulty of separating the fiber mechanically. The variable fiber also is hard to spin.

In the present joint venture, about 1,500 acres of land along the West Palm Beach Canal in Florida, part of the acreage the sugar corporation has not been able to plant in cane because of limited domestic quotas, will be turned over to ramie.

Rockets Zoom

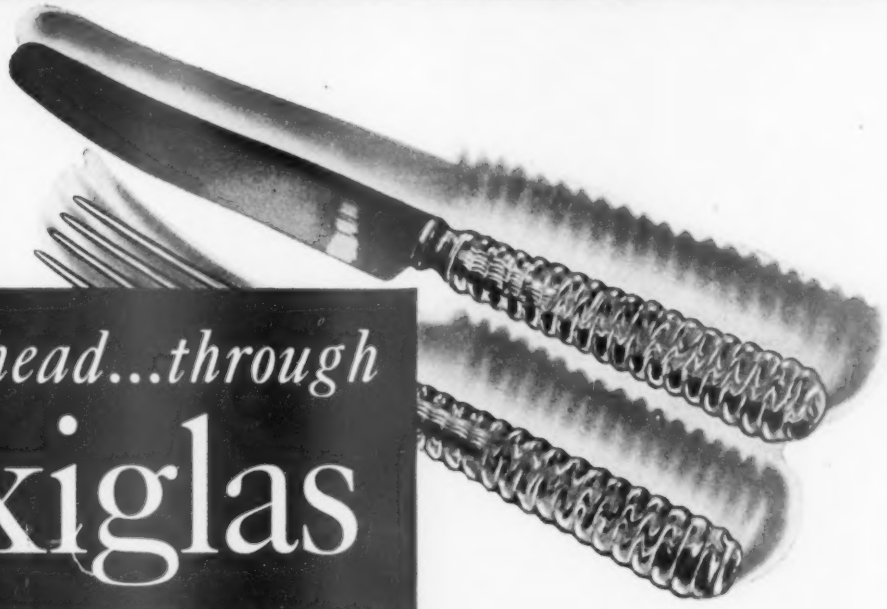
Production push begins as new projectile makes good showing both in Pacific and in France. Goals are upped.

Invasion experience with the Army's "standard" rocket projectile, first in the Pacific and now in France, is proving so uniformly successful that procurement is being put on the highest urgency rating.

• **A Call for Help**—Last week Army Ordnance called assorted industrial leaders to Washington to see whether their plants and subcontractors could handle orders running into many millions of dollars. The Rome Mfg. Co., Inc., a subsidiary of Revere Copper & Brass, Inc., which developed the new standard projectile in close cooperation with Ordnance and is turning out "tremendous" quantities, will expand its output by adding 30 or more subcontractors. Even the big automotive builders are being asked to participate.

Although the Germans and the Japanese have been feeling the "full weight of its terrific fire power," the "artillery-type rocket projectile" can only be described under military censorship as "comparable in potency to the famous U. S. Army 105-mm. artillery projectile."

• **Uses an Aiming Tube**—Like the less powerful bazooka, which specializes in knocking out tanks at close range (BW—Sep.25'43,p20), the projectile is launched from an aiming tube; unlike the bazooka, the projectile is equipped with an inbuilt ignition device which eliminates the necessity for electrical equipment on the launching tube. The latter is a "light mount," not to be held on an infantryman's shoulder, but to be attached to the decks of landing craft



Rope design handles of transparent PLEXIGLAS distinguish this cutlery made by Landers, Frary and Clark

Looking ahead...through Plexiglas

MOLDED IN THE SHAPE OF THINGS TO COME

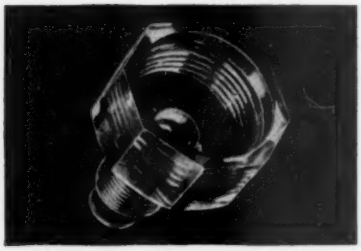
● In many a post-war product, consumers will recognize an old acquaintance. Time has not dulled the eye (and sales) appeal of sparkling PLEXIGLAS... indeed, its lasting, transparent beauty offers still greater promise for the new and different things to come.

Beyond this point-of-sale advantage, of course, alert manufacturers will see *another* reason for welcoming the return of PLEXIGLAS: the ease with which this Rohm & Haas acrylic plastic can be molded on a mass-production basis. From this important feature come substantial manufacturing economies . . . to maintain a comfortable margin of profit on a sales volume stimulated by the sparkle of PLEXIGLAS.

If you are concerned with—or *about*—the shape of things to come, look into permanently transparent PLEXIGLAS. For full information write or call Rohm & Haas offices in Philadelphia, Detroit, Los Angeles, Chicago, Cleveland, New York. Canadian Distributor: Hobbs Glass Ltd., Montreal.

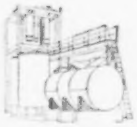
***Only Rohm & Haas makes* PLEXIGLAS**

PLEXIGLAS is the trade-mark, Reg. U. S. Pat. Off., for the acrylic resin thermoplastic sheets, rods and molding powders manufactured by Rohm & Haas Company.



TO MOLD THIS valve part complete to final shape and dimensions, only a single operation is necessary. For mass production of identical parts, injection molding of PLEXIGLAS powders is fast and economical.

SHEETS OF PLEXIGLAS are easily shaped into curved sections. A familiar example: the bomber nose. This fabrication method of working with transparent PLEXIGLAS is especially well suited to the smaller quantity runs and large parts.



PLEXIGLAS IS JUST ONE of the many types of products developed by Rohm & Haas research. The varied fields this company serves with a diversified line of chemicals range from aircraft (plastics) to agriculture (insecticides and fungicides), textiles (reducing agents and fabric finishes), enamelware (porcelain opacifiers), and leather (synthetic tanning materials and finishes).

Represented by Cia. Rohm y Haas, S.R.L., Carlos Pellegrini 331, Buenos Aires, Argentina, and agents in principal South American cities.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Manufacturers of Chemicals including Plastics . . . Synthetic Insecticides . . . Fungicides . . . Enzymes . . . Chemicals for the Leather, Textile, Enamelware, Rubber and other industries

OVER THE HUMP! America's miracles are no longer news—its record in this war is a succession of miracles. But there is one accomplished "impossibility" which deserves special mention: *The job our Railroads are doing!*

Shortage of equipment and depletion of man-power notwithstanding—they have climbed the grade with "know-how," courage and patriotic devotion.

Raw materials have been delivered to our war industries—on schedule. Finished weapons have appeared—when and where wanted—as if by magic.

Millions upon millions of troops have been transported punctually and without incident. Meanwhile, somehow, our civilian needs have been met.

All in all, a feat of logistics that staggers the imagination!

HOUDAILLE★ salutes the *Railroads of America* for distinguished service, above and beyond the line of duty. Never before has their place in our national economy, in our way of life and in our hearts been so secure.

We of Houdaille are proud to have served the Railroads in the past. We are serving them now. We hope increasingly to serve them in the great, new America, after this war is over.

BUY U.S. WAR BONDS

HOUDAILLE-HERSHEY CORPORATION

Executive Offices — Detroit

Manufacturers of precision parts and equipment for the automotive, aircraft, railway, maritime, mechanical refrigeration, radio and other industries

★*Pronounced:* **"HOO-DYE"**

© 1944, HOUDAILLE-HERSHEY CORPORATION

and amphibious "ducks" or carried to a beachhead and set up in position on the ground.

Several mounts of the type can be attached to such craft without affecting operation or calling for structural changes; more specialized mounts can be hooked under the wings of airplanes in groups of three or more to a side.

• **Easy to Transport**—Since each rocket weighs "less than 50 lb." and is launched on its devastating way without recoil, planes and small boats can transport telling quantities of them. An infantryman can carry a pair of them on his back for short distances, launching them in a pinch from the tubular fiber containers in which they are individually packed.

In other words, the fire power of 105-mm. artillery can be brought to bear upon targets of suitable range without the necessity for hauling a 12-ton gun into position.

• **Outshoots Germans**—American rockets appear to have outdistanced German Rakaten (BW—Nov.20'43,p40) in all categories except the pilotless plane-bomb which is not accurately described as a rocket projectile (page 34). Even though the Nazis have had ample time since the North African campaign to copy the bazooka, their new "88-mm. rocket-propelled antitank shell" is reported this week by the British as "not as good as" their own antitank rocket.

Enemy rockets weigh more than similar American types, use more material and labor in manufacture, and require heavier launching mounts. Portability is sacrificed and with it the ability quickly to lay down overwhelming fire upon advancing troops and armor.

• **Standard Pattern**—Conversely, the standard American rocket, and the bazooka for that matter also, can be transported like so much cordwood. Launching mounts are light, easy to pick up and carry forward. Because one standard pattern (presumably with a variety of unspecified loads) is now in use, the Army's land, air, and sea forces are easily supplied.

These factors working in combination are credited with enabling our troops to overcome strong enemy positions that might otherwise not have been breached so quickly.

• **New Technique**—Curiously enough, Revere believes that at least one technique developed for the manufacture of rockets will have postwar possibilities in the field of other high-strength tubular products. The propellent chamber is formed from strip steel, butt-welded into tubing, and thrust through a reducing die. Such a reduction not only brings the member to accurate size but raises the physical properties of the metal by 35% or more.

because of

Oliver's SKILLED PERSONNEL and SPECIALIZED MACHINERY

The accuracy and uniformity of Oliver bolts, nuts and rivets comes from a combination of careful planning, skilled personnel and modern, specialized machinery. To the user of industrial fasteners, these qualities mean greater dependability, faster assembly, lower costs.

Add to this the fact that Oliver is prepared to meet your special requirements for alloy steels, galvanized or plated coatings, heat treatments, special designs, etc., and you find a capable source of help in solving your fasteners problems.

OLIVER IRON & STEEL CORPORATION

SOUTH TENTH AND MURIEL STREETS • PITTSBURGH, PA.

The Tractor that Brushes off a Jungle!

WHEN THE MARINES LAND...so do the Seabees armed with tractor bulldozers, *their favorite combat weapon*. To clear beach-heads for attack troops. To carve air-strips out of jungles. To lay roads over mountains. To drain swamps and build bridges. Yes, *sometimes even to fight!*

Like that time during a South Pacific landing...when strong Jap machine-gun fire held back everything except one man with a bulldozer, who charged in and with one sweep of the blade, cleaned out the nest and buried a dozen Japs.

Of such stuff are Seabees and their bulldozers made. And, like the men who man them, these blade-wielding tractors are built to "take it," where the going is tough.

"Take it" they do, too, when they crack into rocks, butt into trees, bite into dirt, dive under water into mud and sand...or head into enemy fire.

Helping them stand up under the punishing shocks of load and impact are the husky, smooth rolling Hyatt bearings into which we build great stamina and capacity while holding them true to required precision tolerances.

Hyatts are liberally used to protect the vital operating parts of these ponderous machines of modern war. Tomorrow, these same high quality bearings will help you build better machines and hold competitive advantages in the post-war markets.

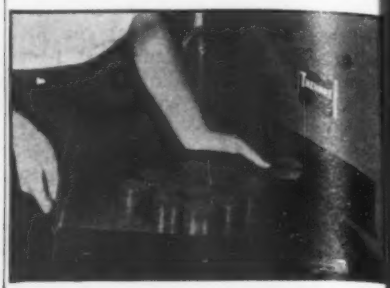
HYATT BEARINGS
DIVISION OF
GENERAL MOTORS

HYATT BEARINGS DIVISION · GENERAL MOTORS CORPORATION · HARRISON, NEW JERSEY

NEW PRODUCTS

High-Frequency Preheater

Newest item of automatic high-frequency equipment for the thorough preheating of plastic preforms is the "No. 2-P Thermex," manufactured by the Girdler Corp., Thermex Div., Louisville, Ky. You put the preforms into a



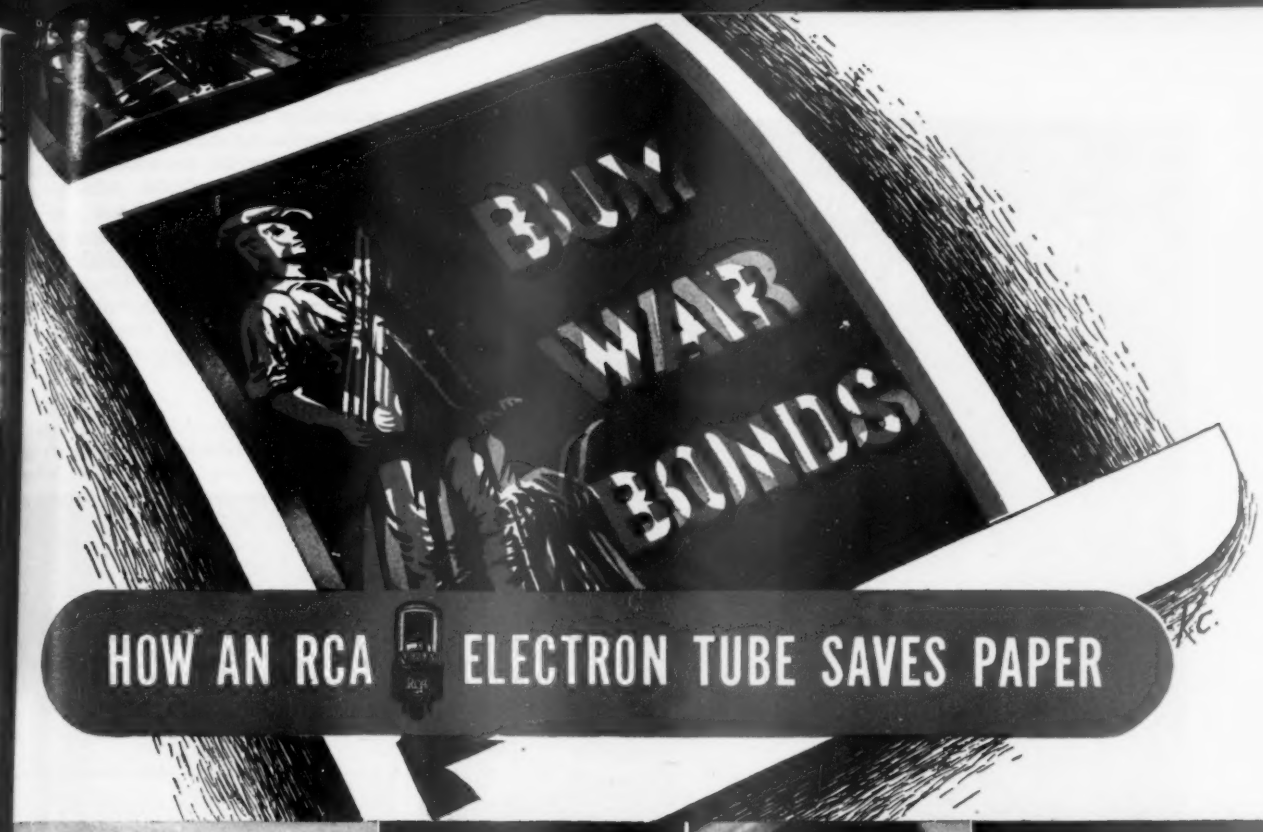
12x15-in. drawer and close it, automatically turning on high-frequency power and a timer. At the end of a preset interval, which can range from 5 sec. to 2 min., a red light goes out, indicating that preheating is complete. You remove the tray and unload the preforms into the cavities of one or more molding presses.

The unit, which is housed in a cabinet 47 in. high and occupies a floor space of only 28x28 in., weighs 614 lb. Its inbuilt heater operates on 230-v., 60-cyc., single-phase current, providing a heat output said to be in "excess of 3,400 B.t.u. per hour." Since the whole thing is "completely automatic, there is nothing to do but plug this Thermex in and load and unload the preform drawer."

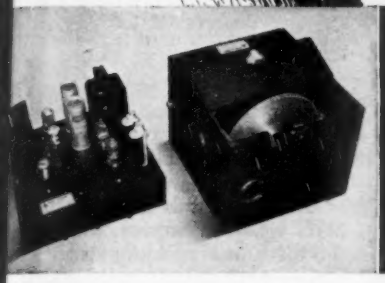
"Silentbloc"

Newest entrant in the broad field of shock absorption and vibration isolation is Silentbloc, the family name for a whole series of synthetic rubber mountings developed by the General Tire & Rubber Co., Mechanical Goods Div., Wabash, Ind. They are designed to "float" motors, engines, spring suspensions, or other mechanisms, using rubber-to-metal adhesion obtained by pressure and frictional resistance rather than the cement bonding and molding usually employed.

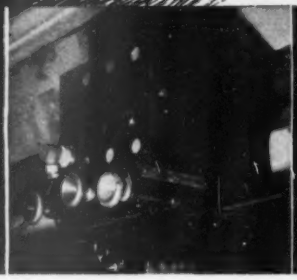
In a mounting for radial or angular loads, a separately molded rubber doughnut is contracted into a metal sleeve of somewhat smaller diameter. The inner diameter of the doughnut is then expanded by means of a tapered mandrel and an inner metal sleeve is inserted. Similar construction is employed on



HOW AN RCA ELECTRON TUBE SAVES PAPER



Scanner and Amplifier convert light reflections into faint electric impulses and amplify them to control position of paper during color printing. Equipment developed by Research Laboratories of ALCO GRAVURE and produced by Morrill & Morrill.



Scanner head mounted at the press rollers. Its "magic brain" consists of 12 RCA Electron tubes: a 929, 6J7, four 6SJ7's, a 6H6, 6SN7-GT, two 2050's, a 5Y3-GT, and a 6X5.

COLOR printing that's "out of register" has caused many a reader to frown...many a publisher and printer to reach for the aspirin.

The picture of the War Bond poster shown above was purposely printed improperly . . . to illustrate what printers call "out of register." The term means that the impressions of two or more printing plates do not fit together as they should.

It takes patience and great skill to adjust color presses accurately *by hand*. And a considerable amount of paper is usually wasted in the process, because the adjustments must be made while the presses are running.

ALCO GRAVURE, of Hoboken, N. J., has solved this problem . . . by electronics.

While the first color is run off, positioning dots are simultaneously printed on the edge of the paper. As the paper is fed through the rollers for each subsequent color application, a sensitive RCA phototube scans the edges of the paper, picks up the light variation reflected by the dots, and instantly converts these reflections into tiny electric impulses. These are immediately amplified by another set of RCA tubes, and used to control the position of the paper with respect to the rollers.

This electronic device, first installed by ALCO GRAVURE several years ago, resulted in far more precise color registry than was formerly possible by hand...and has saved many tons of paper per press per year.

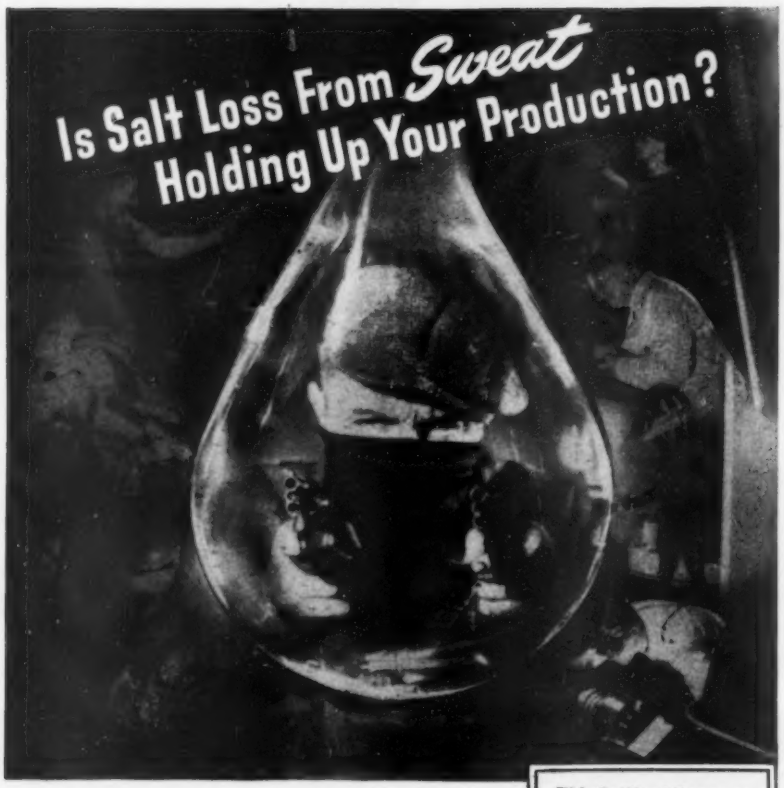
RCA electron tubes are destined to play an increasingly important part in industry...for measurement, counting, weighing, control, high-frequency heating, and an almost limitless variety of other purposes. If you believe that electronics can do some job better, faster, more accurately, or cheaper than is being done in your plant today, and will write to us about your specific problem, we will gladly refer you to the equipment manufacturer best fitted to serve you. Or our own engineers may be able to help. *For the Magic Brain of all electronic equipment is a Tube . . . and the fountain-head of modern Tube development is RCA.*

Meantime, may we mail you our 32-page, color-illustrated, free booklet "*Electrons in Action at RCA*"? Simply write RCA, Commercial Engineering Section, 614 South 5th St., Harrison, N. J

RCA

RADIO CORPORATION OF AMERICA

RCA VICTOR DIVISION - CAMDEN, N. J.



Stop it for less than 1c a man per week

When workers sweat their systems lose essential salt . . . And salt *is* essential. It gives tone to the blood. It keeps body fluids in equilibrium. It helps maintain proper body temperatures.

Loss of this salt through sweating dehydrates the body . . . thickens the blood . . . causes Heat-Fag. The resulting fatigue and inalertness make production sag and accidents rise.

To drink water alone is not the cure. It only dilutes the body fluids. The result is heat cramps . . . and more loss of production.

The real answer, recommended by industrial doctors and endorsed by America's greatest corporations, is to place salt tablets at every drinking fountain. Then, workers who sweat can get the salt they need when they take a drink of water. Morton's Salt Tablets are the easy, simple, sanitary way to replace the body salt sweated out. And the cost is less than 1 cent a man per week.

This Is What Happens When Sweating Robs the Body of Salt . . .

QUICK DISSOLVING
(Less than 30 Seconds)

This is how a Morton's Salt Tablet looks when magnified. See how soft and porous it is inside. When swallowed with a drink of water, it dissolves in less than 30 seconds.

Case of 9000, 10-grain salt tablets $2.60

Salt-Dextrose tablets, case of 9000 . . . . $3.15

MORTON'S Heat-Fag SALT TABLETS

MORTON'S DISPENSERS

They deliver salt tablets, one at a time, quickly, cleanly—no waste. Sanitary, easily filled, durable.

800 Tablet size . . . $3.25

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MORTON SALT COMPANY, Chicago 4, Ill.

mountings designed for torque load such as for the eyes of automotive le springs or for the levels of knee acti suspensions, where the rubber its provides "elbow action" and serves a vibration-absorbing bearing for pa oscillating at angles up to 30 deg. R duction of weight, long life, and fre dom from lubrication troubles are fo cast for many kinds of mechanisms an mechanical equipment.

"Leatherlin"

More than two years of research an development are said to lie behin Leatherlin, new product of Congoleu Nairn, Inc., Kearny, N. J., which co sists of a strong cotton webbing im pregnated with an unrevealed com pound. Its strength is reported to b "greater than that of leather and possesses additional advantages of bein more weather-resistant and entirel mildewproof" under any climatic con dition encountered by the militar services. Applications which rang

THINGS TO COME

Postwar sporting rifles and other firearms will be considerably easier to keep clean and free from rust than prewar models. Although their barrels will continue to be forged out of time-tried alloy steels that will have to be swabbed as faithfully as ever to insure their bores against corrosion, many of the more inaccessible parts of repeating mechanisms, shell ejectors, and trigger assemblies will be fabricated out of stainless steel.

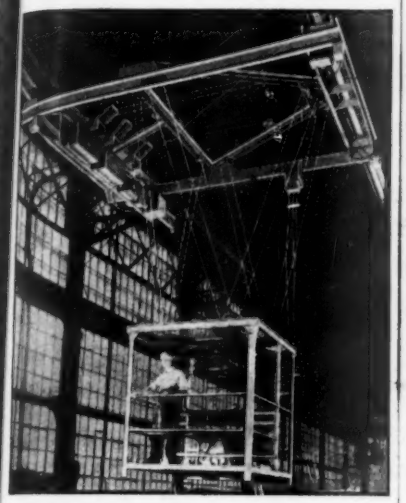
Housewives of the future will believe the millennium has come when wool socks and underclothes not only refuse to shrink during laundering but wear half again as long prior to darning. Secret is a chlorination treatment for wool developed in England and now undergoing improvement and active test by the Quartermaster Corps of the U. S. Army.

Dip tanks of the future will be lined with sheets of acrylic plastic, not because of its crystal clarity but for its resistance to attack by a wide range of acids and to sudden temperature changes. Already the material is being used in large tanks for anodizing aluminum aircraft parts, a service which exposes it continuously to chromic and sulphuric acids without visible damage.

from linemen's belts to mule harnesses are expected to expand with the coming of peace. Unlike leather, the material does not have to be oiled or otherwise treated from time to time to retain its flexibility. Variations in the basic impregnating formula of Leatherlin can be made for unusual requirements.

Stabilized Platform

Although it is suspended by wire ropes, they are said to be so arranged in a geometrical pattern that the new



Stabilized Traveling Platform "can be raised or lowered without swing as firmly as though held by vertical guides. It can be traveled to any point longitudinally or laterally in an area covered by the crane on which it is operated." Although it was developed by the Cleveland Tramrail Div. of the Cleveland Crane & Engineering Co., Wickliffe, Ohio, for spray painting large air cargo ships and to aid with some of the assembly operations, it is expected to find applications in the manufacturing and maintenance operations of the steel industry, paper industry, and others too numerous to list.

Capacity of the platform illustrated is 5 tons; hoisting speed can range from "creeping to 50 f.p.m. or more," bringing the outfit from floor level to a height of 30 ft. Designed as it is for spray painting, the platform is equipped not only with a set of hand controls but with three sets of foot controls on its floor along the three outer sides of the painter's area. These enable him to move the outfit while his hands are busy with handling the spray nozzle. A safety device stops the platform automatically "if any part of it comes in contact with any object sufficiently to cause slackening in any of the hoisting ropes."

Sinews FOR A SYSTEM

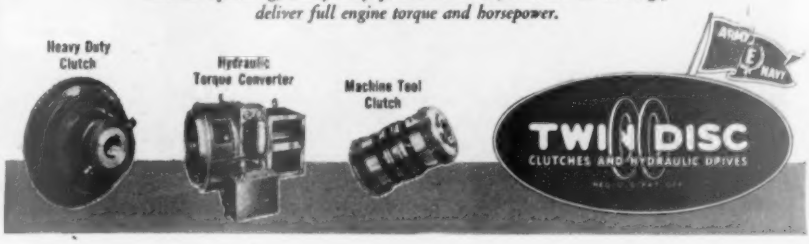
There's a note of challenge in the deep-throated roar of a huge diesel engine—in the staccato bark of a two-cylinder, air cooled gasoline midget. It's a note of defiance inherited from men who build engines to do impossible jobs—jobs far beyond the power of man's muscles.

Internal combustion engines give our system, our way of living, the sinews that help make it great and good. Their development and use have accelerated our progress toward healthier, happier times when all men will live better.

Dependable clutches or power links to connect driving and driven units are vital to the versatility and efficiency of internal combustion engines. The Twin Disc Clutch Company has devoted its more than 26 years of business life exclusively to the design and manufacture of these important connecting links. Inbuilt stamina, reliability and long wear-life have gained for Twin Disc Clutches and Hydraulic Drives the distinction of being chosen as standard equipment on power-driven machines in every conceivable industry.

As a user or builder of equipment involving driving and driven units, you will find it profitable to get in touch with the Twin Disc Clutch Company. Because we are builders of both friction clutches and hydraulic drives, we can offer *complete* answers to power link problems. TWIN DISC CLUTCH COMPANY, Racine, Wisconsin (Hydraulic Division, Rockford, Ill.).

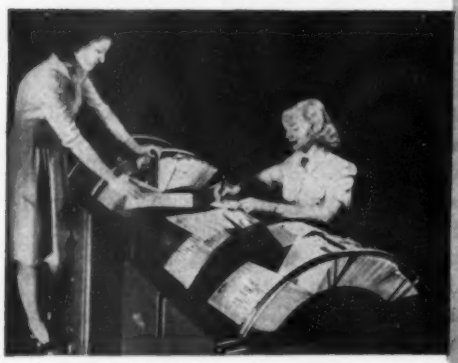
Twin Disc Power Take-offs enable one engine to do many different jobs. Smooth operating, heavy-duty friction clutches, enclosed in housings, deliver full engine torque and horsepower.



When More Work in Less Time is the Essential need!

FOR SALES—*Cardineer's speed, accessibility and mobility offer many advantages to busy sales departments*

FOR PRODUCTION—*Cardineer saves space, speeds reference and posting—increases productive time*



FOR COSTS—*Cardineer's faster finding and posting meet the cost department's need for speed and accuracy*

FOR INVENTORY—*Cardineer record-keeping assures more efficient purchasing—more efficient stock control*

WAR OR PEACE, it won't make much difference, you'll always want the lowest cost, the fastest time, the greatest accuracy possible in keeping office records. It's fundamentals like these that have put Cardineer in hundreds of plants where instant information must be at the finger tips of the operator. Portable, compact, simple, Cardineer offers a proven way to build record-keeping *now*, against the day when costs and speed become even more important.

Cardineer holds 6000 cards for quick posting or instant reference. No eye-strain—no fatigue—work centered at desk. Comes in four models. *Now* or *later*, Cardineer steps up results two to three times over old methods. Order today. Ready for *immediate delivery.*

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A New Slogan

Morris Plan banks turn to commercial field as demand for personal loans drops. This trend may become permanent.

When Arthur J. Morris, a bright young Norfolk lawyer, established the first of the Morris Plan banks in 1910, he gave it the slogan, "The Bank for the Individual." Not long ago, the Morris Plan Bank of Virginia, descendant of the original Norfolk bank, edited this motto to read "The Bank for the Individual and for Business."

• **Emphasis Shifts**—This three-word addition summarizes the major change that the war has made in the 90-odd banks built on the Morris model.

Morris, now 62, believes that consumer credit will continue to be the primary business of Morris Plan banks, but in recent years, he has seen the center of gravity shift rapidly in the opposite direction. His long-standing dreams of what can be done with consumer credit—his hopes of persuading large corporations to create buying power by supporting personal loan banks—are postdated to after the war.

• **Won't Back Out Now**—Morris Plan banks had fanned out into the commercial banking field long before the war, but wartime developments have accelerated the trend so much that they have changed the whole character of the Morris Plan business. With consumer credit shrinking under the double pressure of government restrictions and rising incomes, Morris Plan banks have concentrated on building up a commercial business.

Now that they have established themselves in the commercial field, they don't intend to back out, even when the personal loan business comes back.

This change in emphasis has blurred the already hazy distinction between Morris Plan banks and regular commercial banks. Ordinarily, the characteristic feature of the Morris Plan bank is the fact that it specializes in personal loans, usually on a discount basis, repayable in regular monthly instalments.

• **Less Difference Now**—With Morris Plan banks getting into commercial business, and with commercial banks crowding into the personal loan field, it is hard sometimes to tell the difference in operation.

The name Morris Plan is controlled by the Morris Plan Corp. of America, the company Morris and his associates set up after they saw that the Norfolk bank was going over. Not all the banks associated with the Morris Plan Corp. use the name, however, and a number of personal loan banks have grown up which have no connection with the corporation. Morris Plan Corp. holds stock in a number of the banks, but aside from this, the various Morris Plan banks are independent of each other.

• **Dollar Volume Drops**—Differences in management and location have influenced the impact of the war on the various Morris Plan banks, but in most cases the pattern has been the same. The dollar volume of personal loans has dropped rapidly since the start of the war. Most of this reduction has come from a drop in the average size of consumer loans rather than from a great decline in number.

Instalment financing has dried up rapidly, reflecting the shortage of consumer durable goods and the restrictions of Federal Reserve Board Regulation W, which controls instalment sales.

• **Deposits Increase**—Partially offsetting the drop in consumer loans, commercial loans have expanded, and investments in U. S. government securities have taken a tremendous jump. Both savings accounts and demand deposits have run

Arthur J. Morris is founder and president of banking's Morris Plan which is rolling with the punch of war's impact by establishing a firm foothold in fields of commercial financing.

• It's no wonder that more SKILSAWS are in use today than all other makes of portable electric saws combined. SKILSAW is better built, more efficient, more dependable . . . the product of constant effort to improve materials, craftsmanship and design.

Ever since 1923, SKILSAW has helped contractors do a *better* job of building. Before the War, SKILSAW speeded the construction of thousands of homes, industrial plants and factories. Since Pearl Harbor, SKILSAW has helped build vital war plants, barracks, airdromes, war housing projects, *even faster.*

SKILSAW makes every cut in construction *quicker*... makes every worker count for more! Ask your distributor for a demonstration *today!*

★ ★ ★

Look to SKILSAW for continued leadership! When private building returns . . . new, lighter weight and more efficient SKILSAWS will be ready to speed up all of your sawing . . . to make more profit for you on every construction job!

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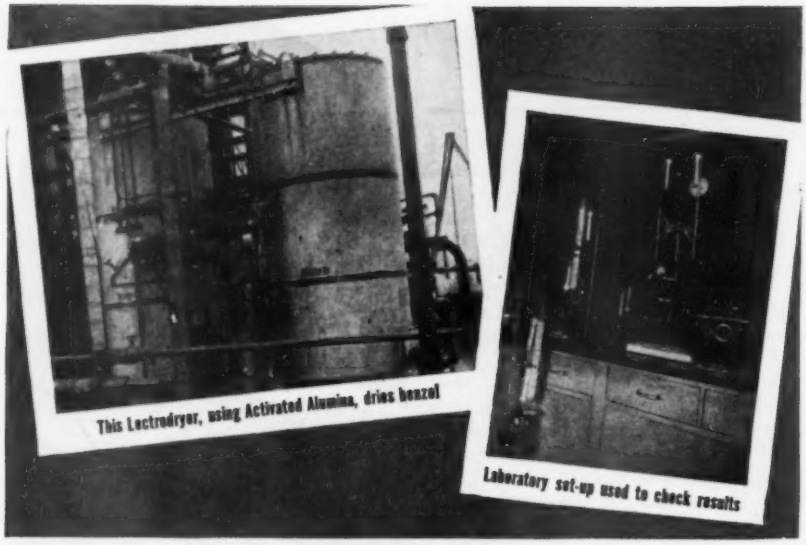


This Lectrodryer, using Activated Alumina, dries benzol

Laboratory set-up used to check results

They wanted to know..

"How dry are we getting our benzol?"

A manufacturer using benzol in his processes was drying it with activated alumina. The discovery of some water in the benzol led to an investigation which uncovered and let them clear up several faults in their system.

The laboratory procedure by which the dryness of benzol was determined will doubtless interest other processors.

Representative samples of activated alumina, reactivated to a degree readily obtainable in commercial equipment, were placed in the two glass columns seen in the picture. The benzol was passed through the first of these columns into a dried glass container, protected from moist air. From there, it was drawn off for testing, the degree of dryness being determined by the sensitive apparatus illustrated.

Actual plant operating speeds and conditions were duplicated. After the benzol was passed through the activated alumina, it was substantially dry.

Our engineers can advise you on methods of drying benzol and other organic compounds. ALUMINUM COMPANY OF AMERICA (*Sales Agent for* ALUMINUM ORE COMPANY) 1935 Gulf Building, Pittsburgh 19, Pennsylvania.

ALUMINUM ORE COMPANY

ALORCO

Aluminum and Fluorine Compounds

up rapidly, with the latter showing a larger proportionate increase.

The banks have had mixed experiences, but most have shown a decline in net earnings after taxes. Although commercial loans and government securities pay a lower rate than personal credit, earnings have been bolstered by the large backlog of consumer loans which have been running off slowly. Also, the general expansion of deposits has increased the total resources of most Morris Plan banks, partially offsetting the decline in the rate of return.

• **A Typical Case**—The record of the Morris Plan Bank of Virginia is more or less typical. At the beginning of 1942, the bank's assets totaled $24,013,000, of which $16,838,000 was in loans and discounts and $1,772,000 in governments. Demand deposits came to $5,479,000, time deposits to $15,407,000.

At the end of the first quarter of 1944, loans and discounts were down to $11,744,000, representing a 55% drop in loans and a 66% decline in automobile and other instalment paper. The slump in consumer loans actually was $7,700,000, but a $2,200,000 increase in business loans partially offset this.

• **Gross Earnings Drop**—Government security holdings at the end of the first quarter came to $15,258,000. Demand deposits had climbed up to $9,966,000, time deposits to $19,619,000.

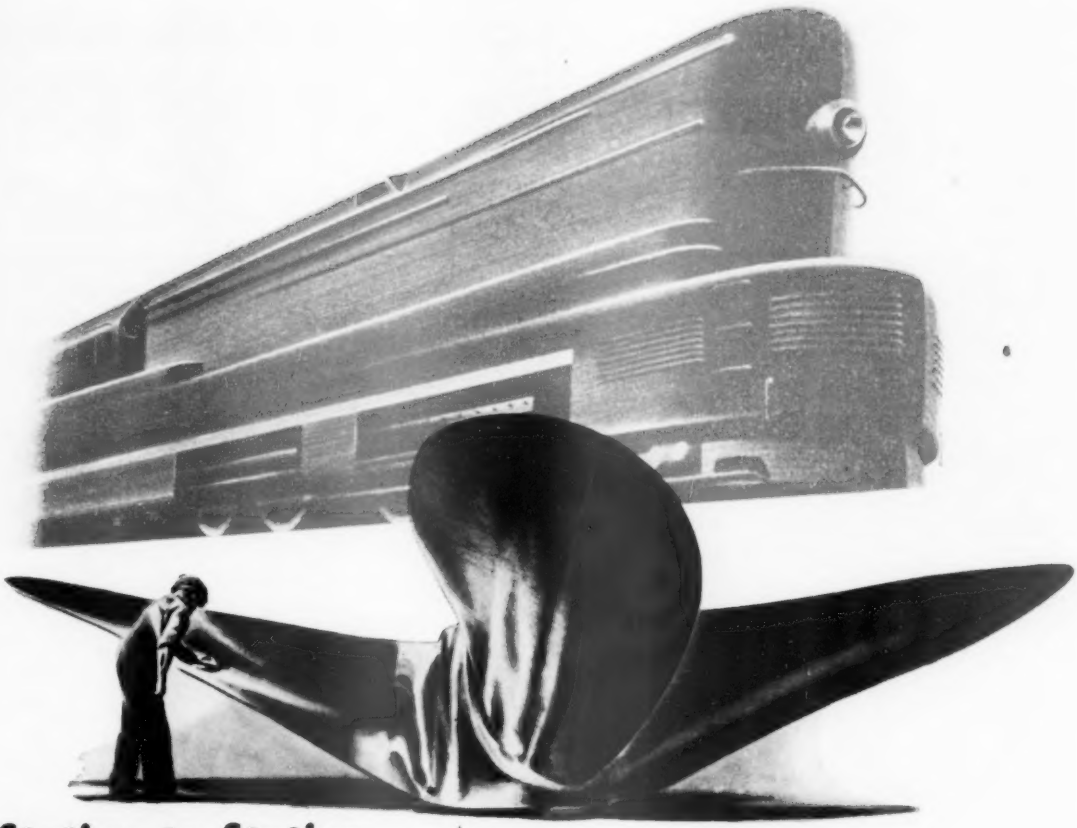
This shift in assets was reflected on the income side. During 1942, loans and discounts contributed $1,407,000 to gross income; in 1943 $1,096,000. Interest on governments, however, climbed from $61,000 to $237,000. Total gross earnings dropped slightly from $1,626,000 to $1,545,000.

Elsewhere, the picture has been much the same. Some 50 banks filing statistics with the Morris Plan Bankers Assn. reported a drop of 28.1% in total loans and discounts during 1942, and a further cut of 11.5% in 1943. Investments—almost entirely government securities—jumped 156% in 1943. Unamortized loans, largely to business, rose 36%.

• **Loan Tailspin Halted**—Although earnings records have been spotty, almost all the 88 members of the Morris Plan Bankers Assn. have managed to stay out of red ink during the war. Six fairly representative banks showed a drop of 29% in net after taxes for 1942, and a further drop in 1943 which brought earnings down to 56% of 1942. Barring unexpected losses, the bankers think this should be about the bottom.

Consumer loans have stopped their tailspin and show signs of turning up again. This will tend to stabilize earnings.

• **Legislative Problem**—Two Morris Plan banks have sold out recently, but



From Station to Station and Port to Port

BALDWIN serves the Nation which the railroads helped to build

The ammunition carrier—crawling under fire to a beleaguered advanced position—is at one end of a line of supply that must reach uninterruptedly back to the very doors of plants and factories in America. Delivering the materials of war is just as vital as making them.

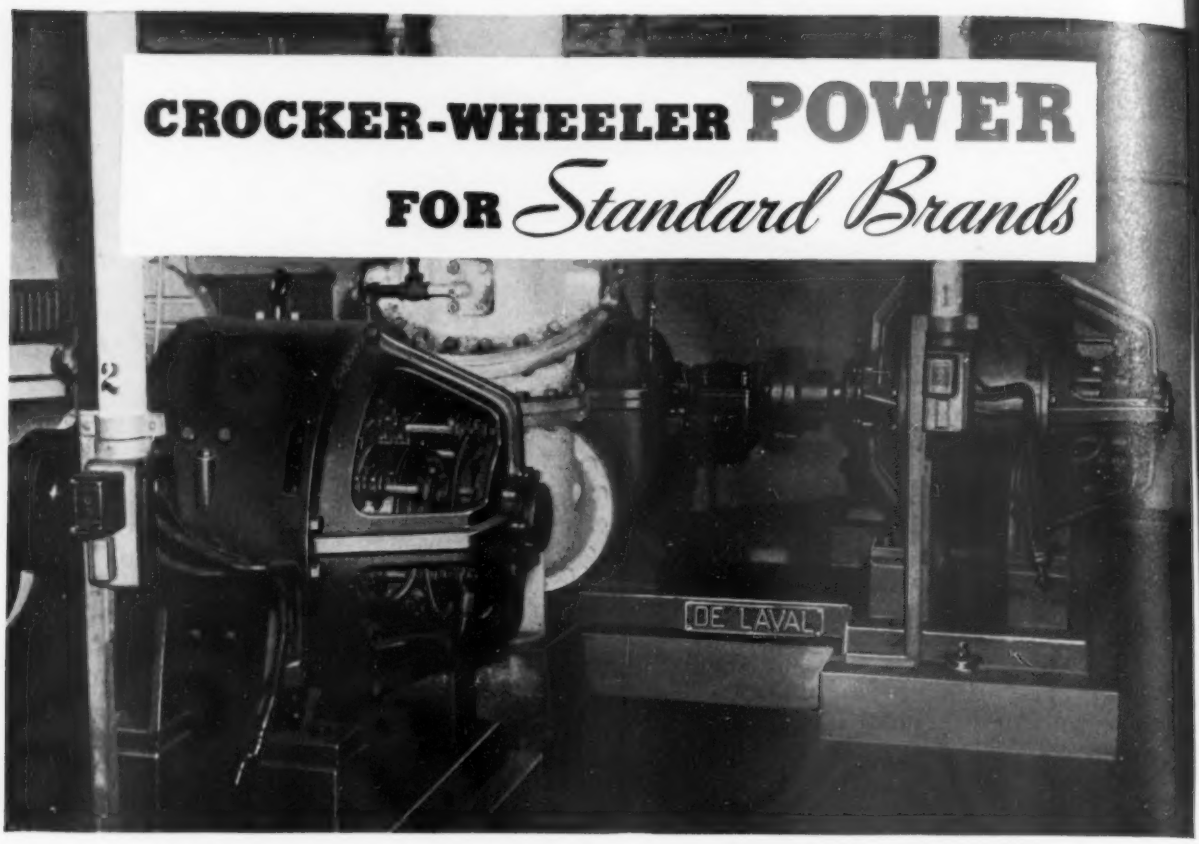
You don't have to be told of Baldwin's part in the first stage of the journey . . . *everyone knows Baldwin locomotives.* But not everyone knows that hundreds of the ships on the second leg of the trip are equipped with giant bronze *propellers,* weighing 22,000 to 75,000 pounds each, that are built by Baldwin. In many instances you will find Baldwin *diesel engines* serving in various capacities on these same ships.

The national emergency found Baldwin experience and facilities *ready.* When you encounter emergencies in the engineering of special products, you will find Baldwin ready to help *you.*

THE BALDWIN GROUP

The Baldwin Locomotive Works, Philadelphia, Pennsylvania: Locomotive & Ordnance Division; Baldwin Southwark Division; Cramp Brass and Iron Foundries Division; Standard Steel Works Division; Baldwin Du La Vergne Sales Corp.; The Whitcomb Locomotive Co.; The Pelton Water Wheel Co.; The Midvale Co.

CROCKER-WHEELER POWER FOR *Standard Brands*



Two of three 100 horsepower Crocker-Wheeler direct current motors driving de Laval 8000 gallons per minute centrifugal pumps in the pumping station of the Standard Brands Fleischmann plant, at Peekskill, New York.

Over 1,200 Motors at Standard Brands' Plants

FOOD FIGHTS FOR FREEDOM. At Standard Brands' many plants, Crocker-Wheeler motors are backing the attack. Over 1,200 motors at Standard Brands' plants are at work on all operations of food processing. Crocker-Wheeler "know-how" has been a definite and continued contribution.

This number is definite proof of quality—Crocker-Wheeler motors are known for their precision manufacture and quality materials... liberal design... good performance... long life... low maintenance cost. Crocker-Wheeler power is an important factor in the entire food industry, giving plus value for every power dollar spent.

Whatever the power need—in every industry—Crocker-Wheeler's experienced field engineers can solve your application problems. They know these problems and know which Crocker-Wheeler power equipment can best do the job. Rely on their unbiased judgment and willingness to serve you. They are as near as your telephone. Before you buy motors or generators, consult nearest Crocker-Wheeler office.

Hendy Divisions produce various types of mechanical, hydraulic and electrical power equipment... including steam turbines and Diesel engines... Pomona and Westco pumps... Crocker-Wheeler motors, generators.

CROCKER-WHEELER DIVISION

JOSHUA HENDY IRON WORKS

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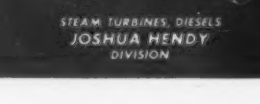


STEAM TURBINES, DIESELS
JOSHUA HENDY
DIVISION

their main reason was unfavorable legislation rather than shrinking business. In Kansas City, the Morris Plan Bank closed and sold its assets to the Commerce Trust Co. Missouri law does not give a Morris Plan company full banking status, and the Kansas City bank's charter did not allow it to take demand deposits. This kept it from expanding resources as a partial offset to declining rate of return.

Big Comeback Expected—Although Morris Plan bankers intend to keep their commercial business, they aren't losing touch with the personal loan field. They are convinced that consumer credit will come back with a rush after the war, and they hope to provide a big slice of it.

Current talk of high-income production and consumption after the war has an intoxicating sound to the personal loan specialist. Some bankers predict that total consumer credit outstanding will reach $25,000,000,000 after the war. (It was $10,000,000,000 in 1941.)

What the Future Holds—No one has figured out what a credit volume of that size would do to Morris Plan portfolios. Part of it certainly would be shared with commercial banks, which are showing a growing interest in the personal loan field. A considerable slice would go to finance corporations or manufacturing companies which do their own consumer financing.

The best guess is that in the postwar period, Morris Plan banks will level off to a ratio of about 60% personal loan business, 40% commercial loans. What happens to the totals will depend more than anything else on the course of the national economy.

Wrigley Sticks

Named board chairman as his wartime views for chewing gum company win backing. New product nears the market.

Election of Philip K. Wrigley last week as chairman of the board of the Wm. Wrigley, Jr., Co. at $1 a year gets the corporation squared away on the course it probably will sail for the duration.

A Moral Victory—He resigned the presidency a few months ago to resolve a deadlock between his view that the company should cease temporizing by giving dealers inadequate deliveries of standard Wrigley brands, and the view of other senior executives that the company could weather through the war period on this policy (BW—Apr.29'44, p24).

Wrigley retained his directorship and his office on the executive floor of the Wrigley Bldg., continued to work eleven-hour days on the company's sales and advertising problems. In the interval, some of the opponents of his policies have swung over to his views. The moral victory and the largest block of voting stock remain with Phil Wrigley.

Only in Machines—Wrigley answer to adequate supplies for dealers is war-grade Orbit gum. U. S. vending machines are the only outlets for Orbit. (Milwaukee was guinea-pig city for 30 days two months ago for testing public acceptance of this brand over the retail counter, but its sale there has been suspended.)

Vending machine operators, because they are dependent solely on automatically salable merchandise, have been allotted a steady supply of Orbit ever since late in April when the well-known Wrigley brands were channeled 100% to military overseas consumption.

Nearing the Market—Wrigley factories are moving Orbit into Wrigley warehouses as fast as they can. When sufficient quantities are on hand to stock the 1,000,000 retail outlets for gum in this country, and reserves are big enough to keep these retailers supplied, Orbit goes on sale nationally.

Total production will be well below former volume of Wrigley sales because of lack of factory manpower and machine capacity. Wrigley executives expect they can release their new line by mid-July.

Orbit is made without the proportion of far eastern gums (now unobtainable) required for a Class A product. It tastes like Juicy Fruit; this synthetic fruit flavor was less popular than Spearmint or Doublemint, but available gums when flavored with mint oil either crumble in the mouth or go soft.

Foil Used for Exports—Orbit's wrapping is single thickness paper, which is considered adequate nowadays when gum never stays on a dealer's shelf long enough to go stale. (The prewar brands, now sold only to uniformed men and women outside the U. S., have resumed their prewar aluminum foil wrappings to withstand overseas shipment and rigorous climates abroad.)

The manufacturer's name appears on Orbit in small type, but the Wrigley connection is not played up.

Military Demands Gain—Counterbalancing for civilian gum chewers the good news of Orbit's approach is Beechnut's letter to distributors this week. This put that company's jobbers on notice that military requests for further quantities for consumption in this country and overseas would dig deeper than ever into quantities available for civilian use.

"BOMBS rolled out faster ...after the SIMONDS engineer doubled our bandsaw life!"

"We had a problem in sawing round blanks for lock nuts on the fins of 1,000-pound bombs. These rounds were 4¾", of SAE 1035 steel. The Simonds cutting engineer studied the job, and now we cut these rounds in 10 to 13 minutes each. What's more, we get 70 cuts per saw blade, which is almost *double* the blade-life we used to get!"

Obviously, such production improvements are not possible in every case. But wherever the Simonds cutting engineer is called in, the chances are that *some* worthwhile saving or improvement will result. Ask your own Industrial Supply Distributor or Dealer to bring a Simonds man to look over *your* cutting operations . . . on metal, wood, plastics, or other materials.

SIMONDS SAW AND STEEL COMPANY
FITCHBURG, MASSACHUSETTS

LABOR

C.I.O. Political Line

Under Murray's guidance, the industrial unions will back Roosevelt while demanding new concessions from agencies.

Critics of C.I.O.'s president, Philip Murray—notably his erstwhile boss John L. Lewis—have charged that in pledging the labor vote to President Roosevelt he has turned his back on collective bargaining. It has been said that he has forgotten the ancient union axiom: "Get for what you give."

But this week, while the C.I.O. Political Action Committee handed candidate Roosevelt what appeared to be a blank check, C.I.O.'s executive board demanded that the President lay it on the line and make some drastic changes in his agencies' handling of labor affairs.

• **Ambivalence Theory**—C.I.O.'s political ambivalence creates no paradox. It rests on the Murray theory that no available Republican candidate can be more labor-minded than Roosevelt but that more concessions can be wrung from the President. To make it perfectly clear that each arm of the C.I.O. knew very well what the other was doing, Murray himself appeared before the P.A.C.'s big Washington meeting and, in a prepared address, blasted the National War Labor Board, Office of Economic Stabilization, Office of War Mobilization, and Office of Price Administration for maintaining tight wage controls and lax price controls.

• **New Element**—Murray also injected a new element into the long labor fight against wage ceilings by asserting that an upward adjustment is needed now as impending cutbacks are threatening to reduce workers' income materially.

Previously, labor leaders have fought bitterly any attempt to hold down wage rates based on the assertion that labor is earning enough on a weekly "take-home" basis because of overtime. Now, in a period of declining overtime payments, Murray asks the government to consider total earnings in adjusting wages.

• **C.I.O. Resolution**—The C.I.O. executive board followed Murray's action with a resolution asserting:

"The present policies of NWLB, instead of being streamlined and designed to meet the wartime problems, are actually causing the most intense unrest and resentment throughout the nation."

Specifically, the C.I.O. objected to:

(1) Maintenance of the 15% Little Steel formula.

(2) NWLB's wage bracket system which bases pay levels on already existing area and industry rates (BW—Jul.7'43,p96).

(3) Reliance by the full board on judgment of the NWLB staff, particularly the Wage Stabilization Division "which arrogantly has assumed final authority over all wage problems."

(4) Delays in NWLB procedures.

"Employers are deliberately using the deficiencies and shortcomings in the policies and the administrative machinery of the board to provoke labor and cause political confusion and national unrest," the C.I.O. charged.

But the C.I.O. added, "We reiterate our complete support of the National War Labor Board as an agency which must be continued to resolve in a peaceful manner the industrial disputes that arise between management and labor."

• **Further Complaints**—A committee of five C.I.O. leaders was appointed to push the demands on NWLB.

The C.I.O. continued to press other complaints, in spite of its indorsement of Roosevelt.

NWLB and OES were urged in a separate resolution to abandon the co[st]-of-living index of the U. S. Bureau [of] Labor Statistics.

• **Legislation Asked**—Another resolutio[n] accused the Navy Dept. of "irrespo[n]sible conduct" in canceling the airpla[ne] contract of the Brewster Aeronautic[al] Corp. without sufficient notice.

The C.I.O. also urged the enactme[nt] of the Kilgore omnibus reconversion bi[ll] instead of the George-Murray bill whic[h] the Administration appears to fav[or] (BW—May13'44,p16).

Boss Pays Fee

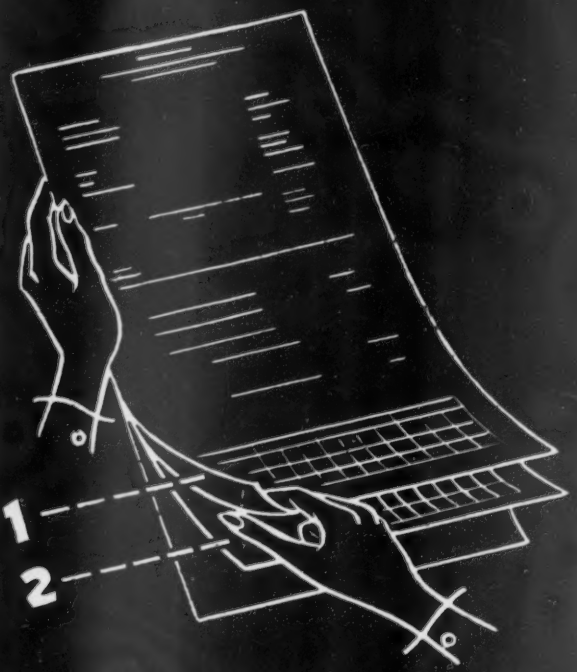
War-born innovation with employment agencies: Some now collect from employers instead of from job applicants.

Private employment agencies have been hard hit by the war and they are not cheered at the prospect of War Manpower Commission's taking over all male hiring next month. Some agencies have had to close because the abundance of war work has made applicants unwilling to pay a fee to land a job. Some have pared personnel to the bone to survive. Others have met the crisis by

AXIS AXES

Captured in the Normandy push, Nazi prisoners (above) are rapidly being added to the swelling pool of captive labor now being tapped by U. S. farmers to relieve their help problems (BW—Jun.17'44,p21). With 185,000 war prisoners—most of them Germans—interned in this country, the War Production Board plans to allocate 16,000—7,000 more than last year—for wood cutting to assure pulpwood and paper production goals. In addition WPB seeks to import 1,200 British Honduras workers and 3,500 Canadian woodsmen to work in southern and northeastern timber districts.

TWO STENCILS *from* ONE WRITING



It's the New Mimeograph Double Stencil

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Navy contractors, for example, have found that Mimeograph duplication, using double stencils, is the made-to-order answer for their recommended shipping and billing procedure. The first stencil is used to produce all work copies and to make actual shipment. The second is saved to report and bill the shipment after it has been made. It is all done without cleaning and filing stencils, and without rewriting of stencils. Time is saved, chance of error is eliminated. There is sure, accurate control all along the line. Write for full details at no obligation. Just mail coupon below to A. B. Dick Company, Chicago 6, Illinois.

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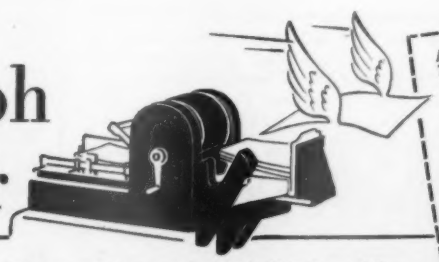

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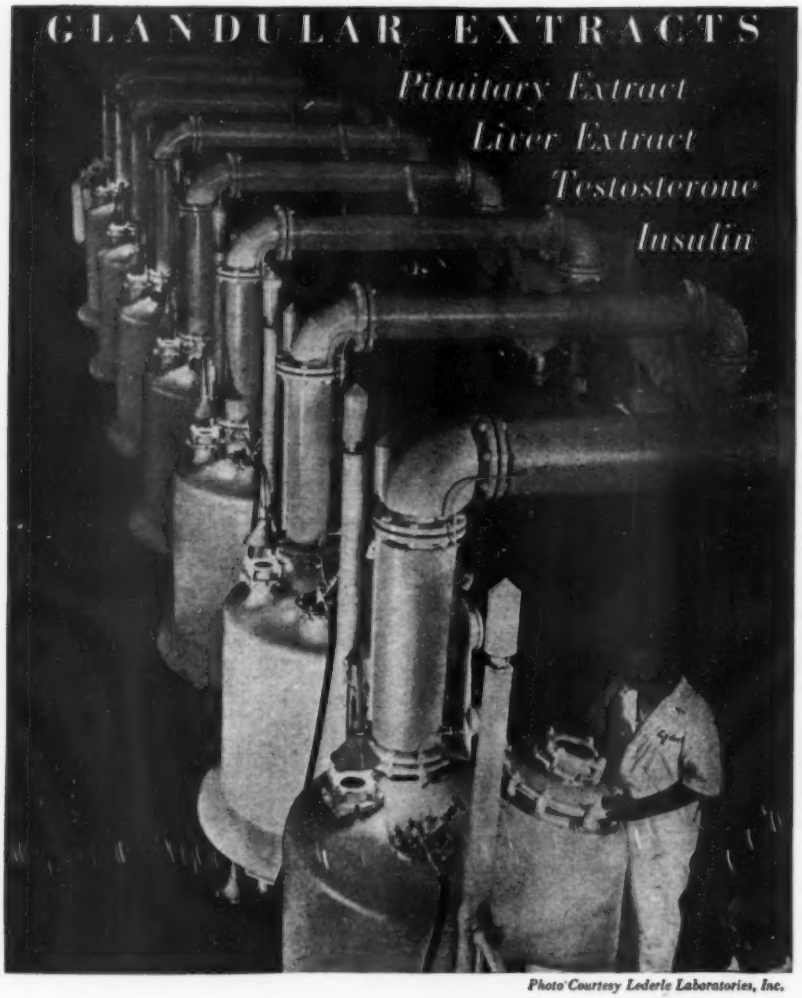


Photo Courtesy Lederle Laboratories, Inc.

When Purity is a MUST... Only Glass-Lined Steel Will Do

The use of glandular extracts in treating human deficiencies has set a swift pace for production to follow. Such rapid growth in demand, from the minute amounts that could be made in a laboratory flask, to mass production of increasingly large commercial quantities, brought about many problems . . . not the least of which was the design of equipment to reproduce in mass production the purity and concentrated effectiveness of the laboratory product. This was the problem that Pfaudler Engineers helped to solve.

Pfaudler Glass-Lined Steel Provides a Laboratory Approach to a Mass Production Problem

Because corrosive "digestive" acid processes were involved, with no toleration of metallic contamination . . . because costly solvents had to be recovered, again without permitting the inclusion of metallic salts which might render succeeding batches impotent . . . Pfaudler Glass-Lined Steel was specified. An extremely delicate process was made possible in mass production . . . to laboratory standards of purity. The Pfaudler Co., Rochester 4, New York.

PFAUDLER

ENGINEERS AND FABRICATORS OF CORROSION RESISTANT EQUIPMENT

reversing the accepted practice and charging the employer, rather than the employee, for bringing applicant and job together.

• **Employers' Idea**—Six large agencies in Chicago are now collecting their fees exclusively from employers. Chicago is one of the War Manpower Commission's critical labor shortage areas, and last summer employers, desperate for help, began offering to pay fees to get workers.

The Chicago Tribune, which has a large volume of classified advertising (BW—May27'44,p90), last November created a special employment service column for so-called free jobs to protect itself against complaints from disgruntled jobseekers who went to agencies for free jobs and were placed in other positions for which they had to pay fees. Several months ago other Chicago papers adopted the same policy. To meet the newspapers' requirements, agencies began to limit themselves to one policy.

• **Guarantee Required**—Principal difficulty of the free agency is the worker who quits his job almost immediately. Some offices now require applicants to guarantee that they will work a specified length of time.

LaSalle Personnel requires male applicants for clerical and technical work to promise to stay on the job at least 30 days; in this classification, the employer pays the agency an amount equivalent to 50% of the worker's salary the first month. The agency gets 30% of a month's pay for women clerical workers, who guarantee to work 21 days; for foremen, a week's salary, and a 21-day commitment; for factory workers, $10 a job, with a two weeks' on-the-job guarantee.

Employment agencies are a big city device; about half of the nation's approximately 1,500 agencies are located in New York City. Some 60 New York agencies went out of business last year, and the remainder, almost without exception, cut their staffs by about two-thirds.

• **New York Custom**—A scattering of New York industrial, hotel and restaurant, and domestic employment agencies always have charged the employer for providing help, but recently more of them, including some white-collar placement services, have switched over. New York is one city where highly paid professional and managerial jobs frequently are filled through employment agencies.

Rates in New York are one week's salary for clerical work, and 10% of the first month's pay or a flat fee, say $10, in other classifications. Upper-bracket employees usually pay a percentage of the first year's income. It is accepted practice in Massachusetts for the employer to deduct the fee from the work-

OLD JOB OR CASH?

The case of a Dallas (Tex.) Marine, a veteran in his thirties who got a medical discharge and came home to get his old job back only to have his former employer refuse and, instead, offer $1,500 in cash as a settlement, has aroused keen interest among employers and in Selective Service, War Manpower Commission, and Veterans Administration.

The Marine waived his legal right to reinstatement and accepted cash. Questions confronting employers are:

Does this leave them open to a shakedown racket by veterans?

Would cash settlements relieve employers of any further obligations?

Supposing veterans who really don't want their old jobs back collect cash from former employers and then find other jobs more to their liking?

And supposing that no ex-serviceman can legally waive his statutory right to re-employment but can still take his case to court?

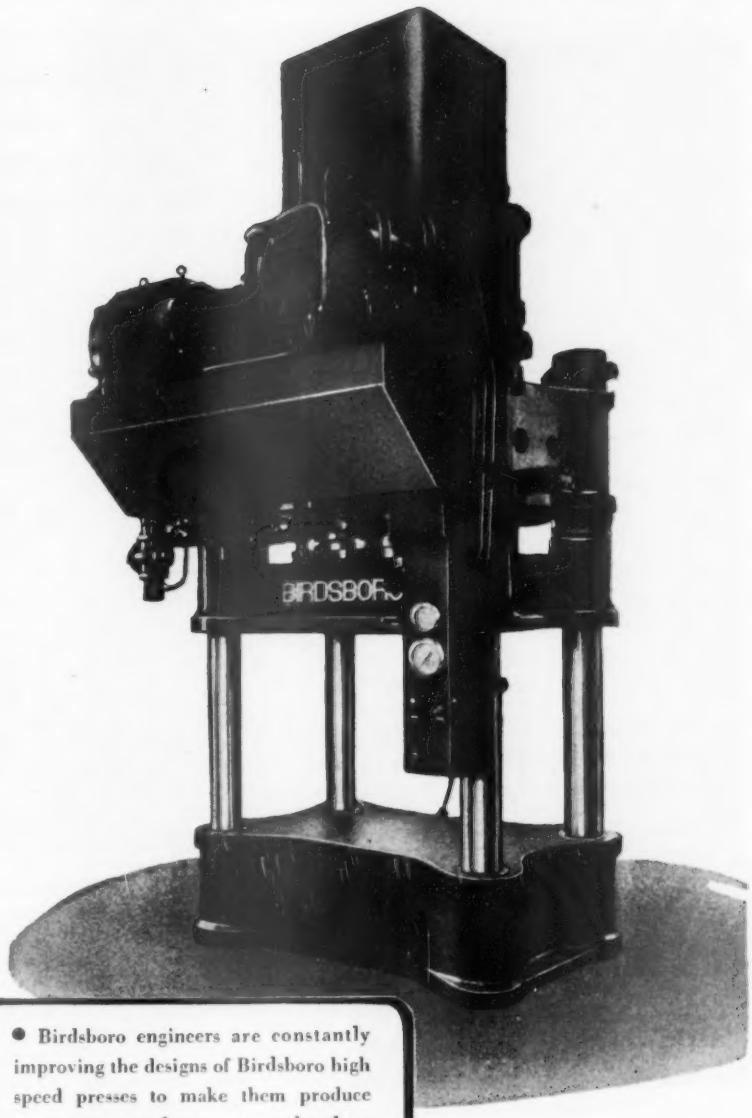
Waivers to disability rehabilitation after the last war were not held binding, which may present a precedent. No federal official in Washington was willing to comment this week. No comment was expected until litigation results in a court decision.

er's pay in instalments and turn it over to the agency; this is not legal in New York.

• **Race Bias Banned**—State laws regulating employment agencies vary widely, and New York's are elaborate. Latest regulation applies to race discrimination: An agency advertising for an applicant of a certain race must carry the name of the company offering the job.

Sections of the law are designed to catch racketeers, to which the employment brokerage business has in the past sometimes been prey through such tricks as the collection of fees for nonexistent jobs and the splitting of fees with personnel managers who hire and fire with rapidity.

• **Healthy War Babies**—Viewed by the old-time agencies as being strictly war babies, the free agencies are nevertheless giving stiff competition, especially in jobs for women. Free agencies claim a cost advantage in that they can make one billing to a good credit risk, rather than depending on sometimes dribbling collections from workers, who are often transients.



• Birdsboro engineers are constantly improving the designs of Birdsboro high speed presses to make them produce more parts per hour . . . to make them safer, easier to use . . . to make them cost less to maintain. The aircraft and allied metal-working industries are making full use of our engineering products and services. We will be glad to put this experience to work on your next hydraulic press problem.

•

Illustration shows a Birdsboro 750 ton Hydraulic Metal Working Press. This type press is available in sizes from 150 ton to 5500 ton.

For additional information write for the Birdsboro Hydraulic Metal Working Press Catalogue.

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Birdsboro Steel Foundry and Machine Company, Birdsboro, Pa.

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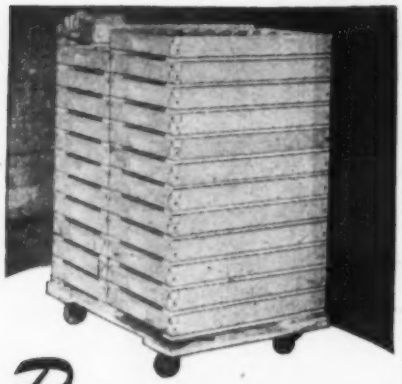

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MARSH

Aid for Founders

Gears of four Washington agencies are meshed to stimulate flow of manpower into foundries and erase production worries.

Efforts are being made all along the factory line to raise production of castings. Output is critically below requirements (BW—May13'44,p36). Appointment of a national foundry and forge shop committee in Washington last week highlighted this drive.

• **Four-Way Approach** — Washington has charted a four-way approach to the problem, through WPB, the National War Labor Board, the War Manpower Commission, and Selective Service. They were goaded into action by the vigor of the founders' protests against Washington's method of treating their manpower problem (BW—Jun.17'44, p7). The agencies hope that when midwestern founders meet July 6 in Chicago, the trouble will be over.

WPB is speeding facilities grants to foundries, enabling them to modernize and thereby require less manpower. All foundry applications for priorities are being given immediate attention.

• **Wage Cases Speeded** — Regional NWLB offices have been told to hasten action on any labor cases involving foundries. If wages are at issue, indications are that the boards will give consideration to the Little Steel formula provision for increases beyond 15% when inequity is involved.

Similarly, WMC offices are putting foundry help toward the top of their referral lists when the calls for manpower come from some 300 foundries classed as critical in the war effort.

Selective Service regulations, of course, do not provide blanket deferments for workers in any industry. The critical nature of the castings supply today, however, indicates that the draft boards will give enlarged attention to deferment applications from foundries.

• **Production Falling**—Reports to the government indicate that castings output fell during April to a level 10% below the March tonnage figure, after a winter in which the foundries eked out a 2% gain in the face of increasing requirements. May's total was expected to show a modest drop from April.

In the face of this tapering, caused largely by the seasonal desertion of foundry workers in hot weather, castings requirements are going up steadily. By August schedules call for a 25% tonnage increase over spring figures.

• **Truck Block Feared**—Truck producers have told WPB that their heavy vehicle schedules will be badly impaired in the months ahead unless the foundry problem is solved. Winter and spring output met schedules. But April's foundry production will be reflected in July final assemblies, and the pinch will come then.

Landing craft programs, still on the increase, also will be affected if shortages of cast blocks and heads for engines accrue.

• **Can't Work Long Hours**—The draft and higher wages in machine shops have drained off many men, particularly in younger age groups. As a result, today's foundry labor is largely older men, some of whom have insisted in recent isolated cases that they are physically unable to work more than 40 hours.

Others are inexperienced, and their work has been accompanied by considerable scrappage. Some reports tell of 50% scrap rates within the foundries, and of further rejections when the castings arrive at the user plants.

• **Lack Supervision**—Efforts to solve the common labor shortage by importation of 40,000 Mexican workers have apparently fallen through. But aside from labor shortages, the foundries also declare that they lack sufficient experienced supervision, and that if they had more of it they could reduce spoilage.

DEADLY WAR WORKER

Between tours of duty in a Cleveland war plant, Susie the ferret gets a semi-weekly bath in a mercury and castor oil solution that repels vermin and disinfects. The furry worker and four relatives are all on the night shift at White Motor Co., ferreting out and killing rats. A boxscore on the quintet shows an average of 50 rats weekly, morale improvement among women employees, reduced rodent damage.

Who are you in the *Daytime?*

ARE your emotions influenced by the hands of the clock—or by the ticking of your heart?

The Blue Network and its affiliated stations are inclined to believe that *your* hopes and desires—your tastes and your preferences *don't* change with the passing hours.

That if you enjoy a good, hearty laugh of an evening, you also enjoy mirth and wit while you're washing the dishes. That if there's a small baby in the house, you, like he, are swayed more by his needs, day and night, than by the hour or minute. That if you go through the *evening* listening for news of some specific theater of war—that's where your thoughts may be while you're waiting for the kids to come home from school.

These are more than beliefs on our part. They are convictions—convictions so firm and deep-rooted that we have built the entire structure of *our* daytime radio programs upon them. Furthermore, we bring you a whole wealth of such programs, not once or twice a week but every day!

For in this important phase of our operations, as in all others, the Blue, and its affiliated stations know that their function in life is to furnish a bridge between the world and you—to express the world to you and you to the world . . .

In fact . . . this *is* the Blue Network!

THIS IS THE **Blue** *NETWORK*

AMERICAN BROADCASTING SYSTEM, INC.

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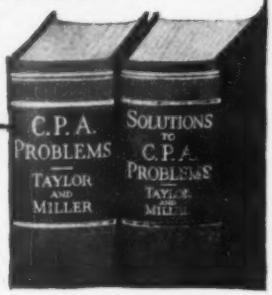

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Hours vs. Output

Labor Statistics Bureau study offers light in persistent controversy over the effects of longer work time on productivity.

Evidence that longer working hours do not necessarily lead to a net increase in output is contained in a preliminary report based on an extensive study being made by the Bureau of Labor Statistics.

• **Five Conclusions**—On the contrary, increased absenteeism, injuries, and a lowered hourly rate of efficiency may cut total output considerably under that obtainable in a shorter work-week.

So Max D. Kossoris of the Dept. of Labor states in tentative conclusions drawn from the first six case studies made, only one of which has been completed. His findings, with supporting statistics, are scheduled for publication in the forthcoming issue of the Monthly Labor Review. They assert:

(1) In general, over an extended period of time, workers produced less per hour of work when the schedule was raised to more than 40 hours a week.

(2) On the other hand, total output per man-week was generally greater when the work-week was extended.

(3) A lengthening of the working schedule increases absenteeism. But the addition of an extra day to the work-week does not affect absenteeism as much as increasing the number of hours worked daily.

(4) The relation of accidents to hours of work is uncertain, but in one plant the time lost on account of injuries was twice as great under a 58-hour week as it was under a 48-hour schedule.

(5) The night-shift production pattern for an eight-hour day resembled that of the day shift when working ten hours, indicating that night-shift workers are partly fatigued when they report for work.

• **Peak Vanishes**—Kossoris found that the decreased hourly efficiency rate in the longer work-week was due primarily to elimination of the normal midweek production peak. Instead of rising to a high on Wednesday and Thursday, production ran on an almost straight level throughout the week when hours were increased.

All six of the studies were made in plants of the metal industry, and the completed report deals with a large foundry now making castings for war goods. The bureau found that by reducing the number of hours worked in some departments and by offering incentive wages, the foundry had been able to raise production by 10% over previous levels.

• **Efficiency Equal**—Three groups of workers in two departments were considered. The first remained on day work, with no wage incentive system, but had hours of work reduced from 60 to 53.

There was no change in hourly efficiency and total output was reduced in proportion to the amount of time worked.

• **Efficiency Increased**—In the second group, employees on both day and night shifts had weekly schedules cut by elimination of Saturday work and got wage incentives for greater production. In the day-shift section which formerly had worked a 60-hour week at fixed wages, a 12% reduction in working hours coupled with the piecework system brought an increased hourly efficiency of 30% and a 13% rise in total weekly output. The night shift, whose hours were reduced by 13%, raised hourly efficiency records 11% and total output 3%. The combination of shorter hours plus an incentive wage

BUSINESS SIMPLIFIED

Common denominator between the actress, Jane Withers, and a Bethlehem Steel sales executive, Harvey Hewitt, is the preview of a movie that's designed to debunk the mystery of business. Both appear pleased with the $30,000 opus—Three to Be Served—filmed for the National Assn. of Manufacturers by Paramount Pictures. The movie story is that of a youngster and his pals who borrow money to make and sell small spray guns. Their venture rolls toward disaster when workers threaten to strike for more pay. A friendly adviser urges the boy to borrow more money in order to buy machinery that will produce more guns at lower cost. He does, everyone gets a raise, and management's triple obligation to buyer, investor, and labor is moralized.

© 1944 The Studebaker Corporation

"ARE YOU MY DADDY?"

"Yes, sonny boy, I'm your daddy—the daddy you don't remember because you were just a few months old when I left for war"

War is heartless, little man. It doesn't give much heed to family ties. But, along with millions of other men and women in the armed sevices, your daddy is certainly doing everything he can to keep another war from starting when you're grown up and have children of your own.

* * *

None of us in civilian life can match the sacrifices that fathers away from home and fireside—and many others in uniform—are making for us on the fighting fronts.

But this much we all *can* do . . . we can make sure that the America they're fighting for stays strong. We can help them protect the way of life they left behind by putting every dollar we can spare into U. S. War Bonds.

It's more than good Americanism to invest to the limit in War Bonds . . . it's good business. Let's buy more Bonds than we planned, now during the 5th War Loan Drive . . . *and let's keep on doing so!*

5TH WAR LOAN

BUY MORE THAN BEFORE

THE STUDEBAKER CORPORATION

Builder of Wright Cyclone engines for the Boeing Flying Fortress . . . multiple-drive military trucks . . . other vital war matériel

To Grecian Islands – U. S. supplies in paper packages. CONTAINER CORPORATION OF AMERICA

system raised the whole group output by a neat 10%.

• **Smaller Output Gain**—The third group was switched from a weekly to a piecerate pay system with no change in scheduled weekly hours. Efficiency increased nearly 6%, but total output only 3% because of accidents and absences. The introduction of piecework caused the men to speed up, but the increase in pace was not nearly so great as that shown by Group Two, which had the incentive system tied to a shorter work-week.

Idle Pay Preferred

Many laid-off workers shun jobs at lower rates. They'd rather loaf and get unemployment compensation than take small wages.

A significant number of workers laid off from high-paying war jobs are drawing unemployment compensation instead of taking available work at less pay. Some workers apparently prefer to stall along with a smaller income from unemployment insurance on the chance that another remunerative war job will open up.

• **Lots of Jobs Open**—Indiana, for instance, is now paying $85,000 a week to about 5,600 unemployed although the War Manpower Commission has almost 20,000 jobs open.

In Evansville, several thousand workers, mostly women, were released from the Chrysler Corp. and Sunbeam Electric Co. because of contract cutbacks. When the bulk of them applied for unemployment insurance and refused to take lower paying work in hotels, restaurants, and stores, a committee consisting of management, labor, WMC, and state officials investigated. They found that fully half the women did not intend to work any more and used the low pay merely as an excuse.

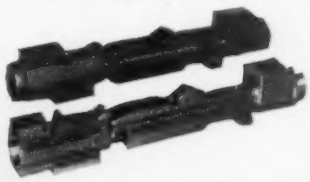
Under the law, a person applying for unemployment compensation must take suitable work offered him.

• **What Is "Suitable"?**—The Evansville committee devised a formula, patterned somewhat after Illinois procedure, calling for a sliding scale of wages to determine job "suitability." It's now applied by local unemployment compensation offices.

• **Held Out for Scale**—The Kansas state labor commissioner, John Morrison, recently denied unemployment compensation to a carpenter who declined a war plant job at less than the carpenters' union scale. Backed up by the Kansas Federation of Labor (A.F.L.), the carpenter turned down a $188.40-a-month job at the Topeka supply depot

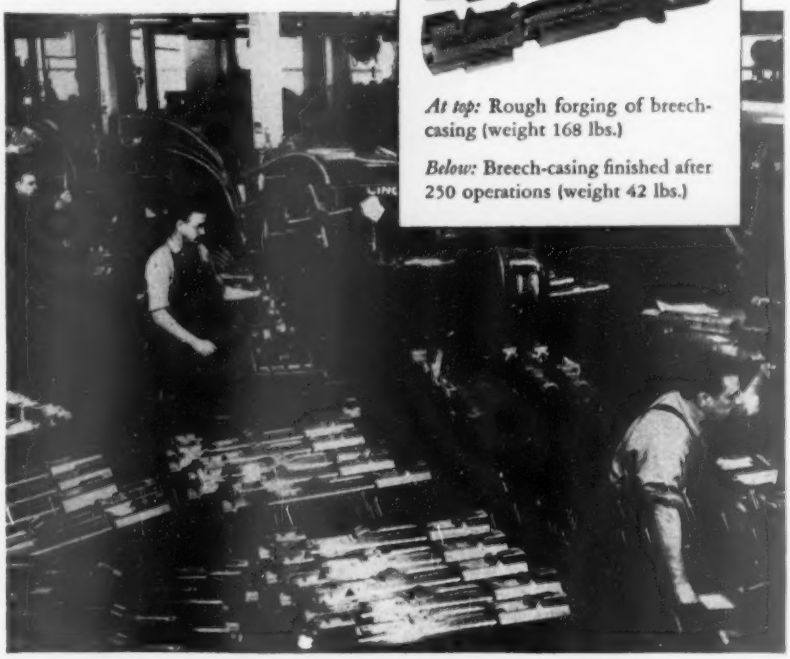
How Taft-Peirce Contract Service Tackled Many Jobs in One...

to turn blue-prints into breech-casings



At top: Rough forging of breech-casing (weight 168 lbs.)

Below: Breech-casing finished after 250 operations (weight 42 lbs.)



Late in 1940 Taft-Peirce Contract Service Engineers were asked how soon they could produce breech-casings for the now famous Oerlikon 20 mm. anti-aircraft gun. At that time the gun existed in the U. S. only on paper.

This complete breech-casing has been characterized as the toughest machining job in the whole war effort. Despite this, T-P engineers set to work to procure equipment, recruit men, design and build tools, jigs, fixtures, and gages to manufacture this "heart of the gun" which required over 250 operations on a single forging. All of this was accomplished ahead of schedule; and less than 6 months after prints were received, the first breech-casing came off the production line, followed by an endless stream of these vital parts.

What manner of men and machines there are here, to handle assignments like this, you will plainly see in less than 20 minutes spent with the interesting illustrated book entitled: "Take It To Taft-Peirce". Write on your letterhead for a copy, to The Taft-Peirce Mfg. Co., Woonsocket, R. I.

For Design, Development, Tooling, Contract Manufacturing...

Take it to Taft-Peirce

He can measure One Trillionth of an Inch

Right: This X-ray machine determines the arrangement of the iron atoms of which sheet steel is composed.

Below: This is an X-ray diffraction pattern of a piece of highly cold-rolled steel indicating that the crystals are oriented in a definite pattern.

THERE are 100 million atoms of iron to an inch. Yet this X-ray machine in the Armco Research Laboratories can measure their positions to one trillionth of an inch, and even tell which way the rows of atoms point.

How is this important? A steel sheet with its crystals all oriented in the same direction magnetizes more easily, makes smaller and more efficient electrical transformers. A sheet with its crystals randomly oriented can be deep-drawn into better fenders for your automobile.

Specialists in steel

The atomic X-ray machine offers an example of the many ways Armco uses precision research in creating and improving special purpose iron and steel sheets—to help manufacturers develop peacetime products that will be more durable and attractive.

One such sheet is ARMCO PAINTGRIP—the original Bonderized galvanized sheet with an insulating film that takes and preserves paint. Used today in templates, PAINTGRIP is helping to speed the production of warplanes. Tomorrow it will serve in many peacetime products.

Will you be ready then?

Armco's experience of over 40 years in producing *special purpose* steels may prove helpful to your company. We can help you select the grade of sheet steel best suited to your purpose—whether you require great strength with light weight; special finishes or coatings; attractive appearance; or exceptional fabricating properties.

And our studies of markets and distribution channels may be of interest to your sales organization now and after the war. Why not consult with us about your problems? The American Rolling Mill Company, 2271 Curtis Street, Middletown, O.

HELP FINISH THE FIGHT— WITH WAR BONDS

ARMCO

Special Purpose Steels FOR TOMORROW'S PRODUCTS

and applied for $15 a week compensation.

In a statement of policy, Morrison said that unemployment benefits are intended for those "unable to find other employment."

"JOB FAMILY" LIST ISSUED

Making with the music, whether sweet or hot, takes a steady hand, the War Manpower Commission has decided. Therefore, when a night club musician applies to any of the 1,500 U. S. Employment Service offices for a job, the interviewer will suggest to him that he get in the groove as a welder, assembler, or aircraft skin-man.

WMC has established "job family" lists—the obvious fruit of painstaking deliberation—to facilitate transfers of workers from nonessential to war jobs when the priority referral program goes into effect July 1 (BW—Jun.3'44,p96).

Bartenders, according to the "job family" lists, can carry over their training behind the bar into any number of jobs, but work as filter cleaners in rayon production is recommended; dancers should be encouraged to become linemen or to take certain jobs in shipbuilding or aircraft plants which require fast steppers; and hotel clerks to become expediters or production clerks.

At the same time that WMC announced that interviewers will use the "job family" lists in making referrals, the agency also revealed that its Bureau of Training is working out plans to assist management in training persons new to industry through public vocational schools, colleges, and its own training service.

RAY TRIES COMEBACK

Local 72 of the Boilermakers Union, with jurisdiction over Portland (Ore.) shipyards, claims to be the biggest A.F.L. local in the country. That fact alone would give it prominence in labor circles.

But most of the attention it has received comes, not from the 50,000 membership (it had 600 in prewar days), but from the activities of its erstwhile business agent, Tommy Ray (BW—Feb.12'44,p98). His $250,000 "marble palace" headquarters, his stand against taking Negroes into the organization, his fight against the union's international officers who thought he might be playing too fast and loose with union funds, and his ouster from his job by court order made 72 one of the most newsworthy locals in the labor movement.

With Ray's ouster last fall (BW—Nov.27'43,p104), Local 72 lost much of its color. But last week, the results of

Shipping Finished Valves

AT THE WORLD'S LARGEST VALVE PLANT

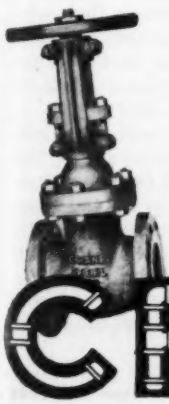
THROUGH the center of the Crane Chicago works run two railroad tracks, accommodating 26 freight cars.

On their way to serve a nation at war are valves of every size and type—giants of steel for a new battle-wagon of the fleet—sleek brass checks for a processing line in a chemical plant—sturdy valves of cast iron for the important job of loading tankers, carrying oil to far-flung battle fronts.

Supplying vitally needed piping equipment to the Navy, Army, Merchant Marine and industry has meant a vastly stepped-up production schedule at Crane Co. The ability of America's largest valve plant to produce quality valves in quantity is serving the nation in time of war.

When the war is won, these same facilities will be available to aid peacetime industry in getting its important job done without delay. New engineering developments—new production techniques that are making possible such a vast production—will assure the nation of a reliable source for high quality piping when that war is won.

CRANE CO., General Offices: 836 S. Michigan Avenue, Chicago 5, Illinois.



CRANE

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

Affectionate Octopus

Hubert Bing, the icthyologist, found the baby octopus in Borneo. It was an orphan with beautiful big brown eyes, and liked to stay on land. Mrs. Bing named it Oswald; and was so attached to it by the time they got home she let Oswald have the run of the house.

As Oswald grew older and larger, he became more and more affectionate. Every morning he embraced the whole family, and it was a tough job for Hubert to get away to the office or the kids to school . . . Finally Hubert said Oswald had to go, or he would! Mrs. Bing gave in. Oswald was wonderful, but Hubert was the breadwinner.

THERE are affectionate octopuses in business . . . routines and systems that tie up activities with red tape tentacles, sometimes strangle rather than step up efficiency. If you suspect there are any on the premises, call McBee, the old octopus exterminator!

Our business is to make business information available faster, more useful and usable. Surveys often disclose duplicated efforts, missing links, repetitions or obsolete records, needless copying and irrelevant reports. Our products are designed for the widest possible application with the fewest possible steps. Our methods are always simple, easy to understand and use, involve no expensive installations or expert personnel...usually cut clerical costs, save time, worry and wonder for management . . . If you'd like to speed up the operation of your business, seeing a McBee man may be the first step. Call any office for details . . .

THE McBEE COMPANY
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an election of officers indicated that Ray was on the comeback trail.

His slate—for which he directed and allegedly financed the publicity and electioneering—was voted in solid. New president of Local 72 is Fred Langer, Ray protege and chairman of the committee which voted Tommy a $10,000 gratuity before he was bounced. Ray was not eligible to be a candidate.

SAWMILL FIGHT REOPENED

The National Labor Relations Board has ordered employees of the Portland Lumber Mills at Portland, Ore., to designate a collective bargaining agent. Since 1940 the 105 workers have been represented by the A.F.L. United Brotherhood of Carpenters & Joiners.

The number of workers is small but the action significant. From 1937 to 1940, Portland's eleven larger sawmills were closed, off and on, as the A.F.L. and the newly organized C.I.O. International Woodworkers of America made the plants their organizational battlegrounds.

Finally, after many certifications by NLRB, the battle simmered down, with each side claiming victory. The A.F.L. had six mills and the C.I.O. five. For nearly four years the status quo remained.

Recently, the C.I.O. asserts, a group of workers at the Portland Lumber Mills sought C.I.O. memberships, so a petition was presented to the NLRB. The A.F.L. sought to argue the case before the board in Washington. This was denied.

With this opening wedge, it apparently is open season again for jurisdictional warfare.

FROZEN HAWAIIANS

Workers in tropical Hawaii have become, in the words of William H. Davis, chairman of the National War Labor Board, "God's most frozen people."

Arriving via clipper ship from Honolulu, where employee absenteeism frequently has been punished by jail terms, Davis told San Francisco newsmen: "Workers there are frozen in their jobs. They're 'frozen' on the islands and can't move around from one to the other. OPA has frozen their prices. Then we came along and froze their wages."

Davis said that wage and labor conditions in Hawaii were critical and that he would advise NWLB (which on June 3 voted unanimously to extend wage stabilization and control of labor disputes to Hawaii) to set up a tripartite Territorial Labor Board.

Wage stabilization will affect about 100,000 workers on nearly all the islands in the group.

Vets in War Jobs

They're being discharged ,000 a month and finding ork in war plants. Few are king vocational training.

Discharged war veterans are now the ost important single source of new in- strial manpower. They are entering e labor market at the rate of 70,000 a nth, and according to the United ates Employment Service, the majority them are going into war production bs.

• 25% to Old Jobs—Latest available fig- es (of varying dates for the different rvice divisions) reveal that 1,296,126 en have been discharged from the rmy, Navy, Marine Corps, and Coast uard since Pearl Harbor. Of the ap- oximately 1,000,000 veterans who ve been discharged through hospitals betokening some disability—25%, ac- rding to Selective Service, have been turned to the jobs they held before ey entered the service.

At the end of the first quarter of 944, Veterans Administration records owed that 118,839 veterans of the esent war were receiving disability nsions.

• They're Trading Up—The War Man- ower Commission reports that only a all fraction of veterans whose em- loyment records are kept are returning o their prewar jobs. Taking advantage of the tight labor market, the returning oldiers are "trading up," seeking and finding better paying jobs than they left. Consequently the veteran re-employ- ment problem is not yet the serious mat- ter that it will become to individual employers.

The man-hungry labor market is also responsible for the low level at which the vocational rehabilitation training program is being conducted. Only 1,993 veterans of the present war were enrolled in this program at the last count. Most of those physically able to work find remunerative jobs and don't bother to avail themselves of training in special skills.

• Quitters Discouraged—Industry has found ingenious ways for employing the handicaps of some seriously disabled vet- erans. WMC's favorite case is the U. S. Rubber Co. plant in Mishawaka, Ind., which uses as an exit interviewer a vet- eran who lost a leg in the Guadalcanal fighting. Every employee wishing to quit is interviewed by this veteran be- fore he draws his final pay check. The plant's quit-rate has been pared appre- ciably since the veteran took over the final interviewing.

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MARKETING

Future Studied

Preliminary survey of postwar steel markets shows demand for 12,000,000 autos, as well as huge housing backlog.

Various steel companies engaged in preliminary surveys of their postwar markets hope these markets won't be too small for their plants, but they're not altogether sure. Steel capacity has grown to 94,000,000 tons, against the 1929 peak of peacetime steel sales of 62,000,000 ingot tons.

• **Cheerful Notes**—U. S. Steel, whose recent moves into prefabricated housing (BW—Apr.29'44,p19) as well as engines (BW—Jun.10'44,p62) indicate aggressive optimism, has organized its postwar planning under direction of George W. Wolf, president of its export subsidiary.

His survey of steel-consuming industries representing about four-fifths of the corporation's normal market struck these cheerful notes:

Automobiles—By 1944, said the survey completed last year, backed up demand would be 12,000,000 passenger cars and trucks. "For the first several years after the war it will be a seller's market," and for steel sales, the auto industry is "especially promising."

Housing—Estimated up to 1,500,000 dwelling units a year for the first ten years after the war. "It is confidently predicted that within five years after the war one-half of the (new) single family detached houses will be of the prefabricated type."

Farms—Greater trend toward steel indicated. Steel frames forecast for barns and sheds. Accumulated demand for fencing, tractors, and other mechanized equipment.

Synthetic rubber—"Should production be continued steel would be required," presumably for new and improved plants.

Pressing, forming, and stamping—Steel office furniture and equipment, and prefabricated household equipment are expected to produce volume orders.

Wire drawing—Expects to capitalize on new uses, such as wire in heavy-duty tire carcasses, wire mesh in building construction.

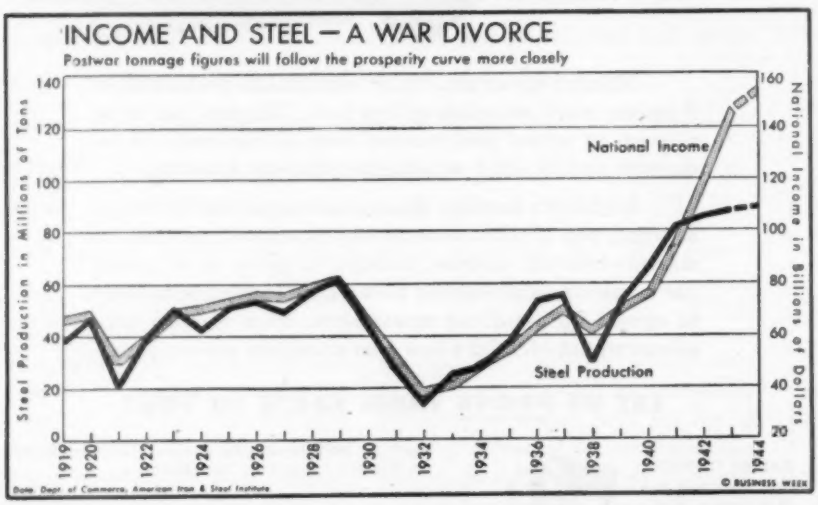
Miscellaneous—Because of war-deferred maintenance, other important volume is expected from highway and new factory construction, railroads, containers (canners, the survey said, may double their prewar "take" of 10% of the nation's food production), oil and gas, machinery and tools. Aircraft and shipbuilding face drastic curtailment but global air transport implies a demand for steel in global service and fueling stations.

• **Disagree on Housing**—Many steelmen disagree with U. S. Steel's enthusiasm regarding prefabricated housing. Disappointments that followed efforts to develop residential steel markets in the past have produced some hard-boiled skepticism. Housing, they observe, is something that requires individual variations to suit customers and environment.

National Steel's Stran Steel division in Detroit, which has produced wartime housing for hundreds of thousands of men in the armed services in "Quonset hut" prefabricated steel buildings, is expected to aim its postwar selling efforts at the nonresidential farm market first, in line with the thinking of these skeptics.

• **Wood vs. Steel Barns**—An arch-rib Quonset hut type and arch-rib barn would have sides of corrugated galvanized carbon steel, 26 gage (0.0179-in. thick). Although prices haven't been announced, Stran expects to sell at prices competitive with wood barns.

Although no other steel company seems ready to challenge U. S. Steel in prefabricated housing, such major rivals as Bethlehem, Republic, Jones & Laughlin, National, and American Rolling Mills are expected to compete actively in selling, directly or indirectly, nonresidential steel buildings and building components such as beams and joists, stairs, window frames, and heating units.



Since 1941, the year we entered the war, steel production has fallen behind its traditional close relationship with national income. In wartime, more man-hours are spent on each ton of steel in making unfamiliar, complex munitions, and high wages for these extra man-hours help boost national income. A marketing study by American Rolling Mill Co. recently pointed out that "raw steel is typically a smaller part of the total cost of war goods than of the civilian goods they have displaced." The record of past relationships raises the question whether anything near the current high level of national income can be maintained after the war without an expansion of present steelmaking capacity (Trend, page 120).

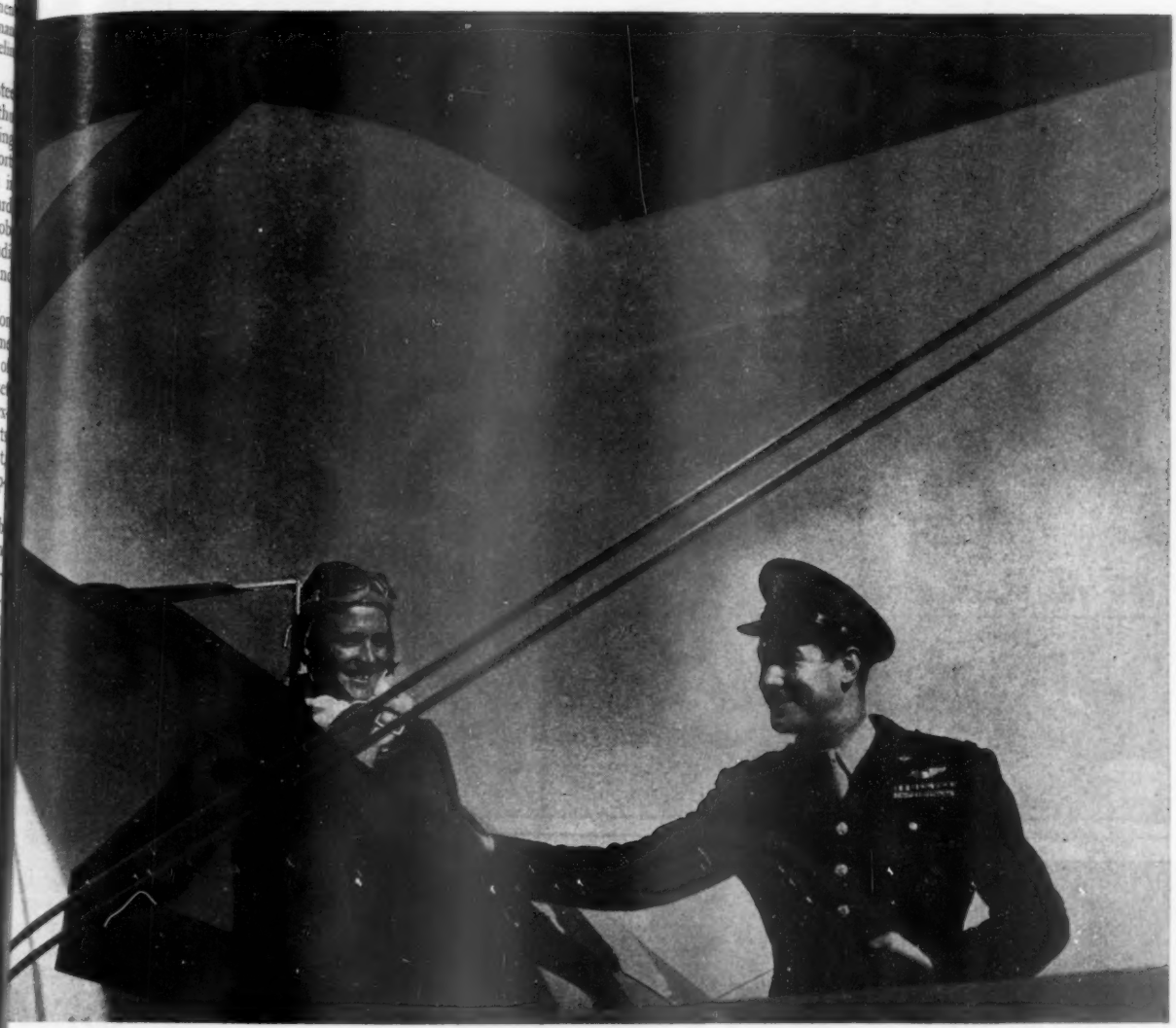
'Shoppers' Step Up

Two California shopping newspapers come out as dailies and challenge press monopolies in San Diego and Long Beach.

When newsprint restrictions became a wartime necessity, publishers of many free distribution "shopping newspapers" saw nothing but trouble ahead. Through their national advertising representatives and associations, they tried to have their publications declared "newspapers" within the meaning of WPB newsprint regulations in order to get direct newsprint allocations.

• **Little Hardship**—But it was no go. WPB left the shopping papers in the classification of commercial printed matter, and their newsprint was restricted to the extent that the commercial printing shops producing them were restricted.

From Dec. 31, 1943, to May 24 this



Finish the Fight with War Bonds

First Love

He came back from a year in the flak-filled sky over Europe. A Flying Fortress pilot, veteran of over thirty bombing missions, with a major's leaves on his shoulders, and plenty of ribbons below his silver wings.

One place he visited was the primary training base where he had done his first flying. When he reached the flight line his face crinkled in a boyish grin.

"Boeing Kaydets!" he said. "If I fly a hundred years there'll never be a thrill like my first solo in one of those babies. I was so scared my fingers felt like sausages. But she took me off and purred away upstairs, sweet and honest and steady—and she was all mine!

"There've been a lot of others since, but I'll always keep a warm spot in my heart for that old PT-17!"

The quality of the training given American fliers is proved a thousand times a day, wherever they strike the enemy. And more of our fledgling eagles have learned to use their wings in the Boeing-built Army PT-17 and Navy N2S-2 and N2S-3 than in any other primary trainers. Hundreds of these same rugged Boeing planes are used for training airmen in other Allied countries.

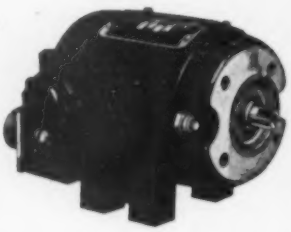
The strength, stability and simple, dependable flight characteristics that make the Boeing Kaydet a great primary training plane result from the same thorough engineering, design and production that have helped to make aviation history with the Flying Fortresses, B-29 Superfortresses, Stratoliners and Transocean Clippers.

• • •

When the war is won, Boeing will apply its diversified engineering and manufacturing skills to peacetime products. And you can have full confidence . . . if it's "Built by Boeing" it's bound to be good.

DESIGNERS OF THE FLYING FORTRESS • THE NEW B-29 SUPERFORTRESS • THE STRATOLINER • TRANSOCEAN CLIPPERS **BOEING**

3 POINTS IN SELECTING A MOTOR FOR A New PRODUCT



✱ Design engineers know that motor operated equipment can perform no better than the motor itself. For this reason they are placing increased emphasis on these three points in order to meet today's severe operating conditions:

1. **Thorough Engineering** . . . to secure a motor designed to meet the requirements of a particular application.
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3. **Exacting Manufacture** . . . to produce a motor which will fulfill these important requirements.

Whether your product is for today's vital demands or tomorrow's important needs, these factors which are characteristic of all Black & Decker motors, are essential for peak performance.

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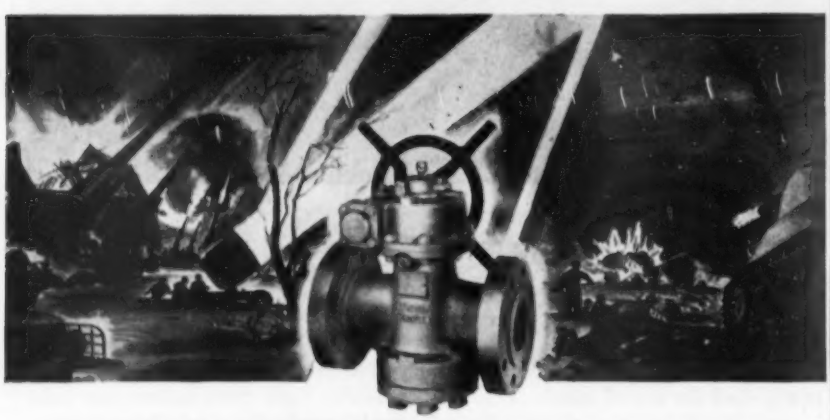

A MIGHTY VALVE LOOMS back of the Attack

WAR relies upon industrial science to provide our fearless fighters with the implements of Victory. In producing 100-octane gasoline, synthetic rubber, block-buster explosives, light metals and critical chemicals, Nordstrom Lubricated Valves are indispensable. Of no less importance in contributing to the war effort is the army of Nordstrom Valves serving the gas and petroleum industry in all its branches. It has been a Herculean task to meet this overwhelming demand. But by intensive effort we are increasing output and speeding up deliveries.

NORDSTROM LUBRICATED PLUG VALVES

MERCO NORDSTROM VALVE CO.—*A Subsidiary of Pittsburgh Equitable Meter Co.*
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year, shopping newspapers had been allowed only 75% of the newsprint they used in comparable quarters of 194 WPB now has changed from the 75% fixed base to a sliding scale under which 91% of the newsprint used in the base quarter of 1941 is allowed to users of 25 tons but less than 125 tons. The scale gradually is reduced as total tonnage increases until only 71% of the 1941 base is given to users of 1,000 tons or over.

Oddly, however, this discrimination operated to benefit the shopping publications. Since they generally came from shops which had a wide variety of other newsprint uses, the shopping newspapers felt the pinch of restriction very little indeed.

• **Two New Dailies**—Recently in California a couple of vigorous shopping paper publishers took advantage of an opportunity offered by a modification in WPB's regulations to increase their newsprint allocation, and become paid daily newspapers, each breaking an established newspaper monopoly.

One of the new dailies is the San Diego Daily Journal, changed over from the three-a-week Progress Journal which young Clinton D. McKinnon, a professional shopping paper publisher, brought out. The Journal entered a city which never had known industrialization but where Consolidated-Vultee, Ryan, and a host of smaller war plant concerns had doubled the civilian population since the war started.

• **25,000 in Three Months**—Before the Journal appeared, San Diego's newspapers—morning and evening—were considered by some to be unfriendly to the new labor unions which industrialization had brought to San Diego.

McKinnon, with his new peach-colored evening paper, started last Mar. 17. The Tribune-Sun (evening) has a circulation of around 75,000, the Union (morning) 45,000. In its third month, McKinnon's paper claims 25,000.

• **In Long Beach**—The second shopping paper to become a daily is in Long Beach, Calif., where the biggest Douglas Aircraft Co. plant is located.

The Long Beach Independent, a give-away shopping paper, had been moving toward becoming a paid newspaper gradually with a "service charge" to readers. Last September the Independent's publisher announced that he would go daily, and increased his rate to subscribers from 25¢ to 60¢ a week. He thus was able to start with a claimed 28,000 paid circulation in a morning paper field against the competing Morning Sun, which had 15,000 paid circulation. The biggest Long Beach paper is the Evening Press-Telegram which has more than 49,000 circulation.

Furriers Warned

OPA cuts ceiling prices on fur skins and tells trade more reductions will come if savings aren't passed on to consumers.

With the semiannual auction of Alaskan sealskins held at last after a prolonged dispute with OPA over price ceilings (BW—May13'44,p89), manufacturers of fur garments kept a watchful eye on Washington this week.

• **Prices Reduced**—Practically all sellers of domestic and imported fur skins were affected by an order issued by OPA last week, substantially reducing prices, effective on Monday—the day the sale of 21,745 government-owned sealskins was held by Fouke Fur Co., St. Louis.

The order covered not only Alaskan sealskins, but the six other principal raw furs—marmot, muskrat, opossum, Persian lamb, raccoon, and skunk—which represent a substantial percentage of the total dollar volume of furs sold in the United States.

• **OPA Sounds Warning**—There was nothing new in OPA price ceilings on fur skins except that they were substantially reduced. What was of interest to the trade was OPA's warning that unless the reduction in the price of skins was passed along to the consumer "further reductions may be made before the next season if necessary to stabilize the retail prices of fur garments."

OPA also told the trade that the effect of the new fur skin prices on the retail market would be observed closely.

• **Sealskins Scarce**—Success of the semiannual Alaskan sealskin sale was assured even before it began. The number of skins offered was the smallest ever put up by the agents of the Dept. of Interior—13,123 marta browns and 8,619 safari browns. The number of buyers present was the biggest ever—more than 250. The U. S. fur skin market was bare of Alaskan sealskins.

The buyers quickly ran the bidding on all lots up to OPA ceilings—$45 for best grade skins, $15.75 for the lowest grade, as compared with last fall's top price of $53.50.

• **Pellets Decide Buyers**—Because of ceiling prices, tie bids were inevitable. All buyers were assigned lot numbers and awards of sales were made by numbered pellets tossed from a bird cage.

Bidders for closed lots were limited to those buyers who had bought skins at the auction between September, 1941, and March, 1942. Others attended in the hope of being lucky enough to get one of the 76 open lots, and a quick turnover under OPA rules.

A TOUGH SPLICE

You can help the War Production Board in its continuing struggle to make ends meet in military and civilian rope supply. Rope is needed in shipping, fishing, oil-well drilling, glider towing, and in the lifting jobs of industry and farm. It must be conserved.

If you own a piece of rope, or manage work requiring rope, be sure that weather and misuse are not allowed to sabotage our rope supply.

Making the rope we have last only 10% longer is the same as adding approximately 20,000,000 pounds to our stocks.

If you want to know exactly what can be done to make rope last longer, we shall be glad to send helpful booklets "The Rope You Save Fights For You" and "14 Ways to Make Rope Last Longer!" Plymouth Cordage Company, North Plymouth, Massachusetts *and* Welland, Ontario.

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This team of telescopic **REVOLVATORS**, *combination of the skid and pallet system, piling clear to ceiling; also capable of removing cases from any part of the pile.*

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LONG ISLAND CITY, N.Y.

Grocers Attacked

Emulating Justice Dept., FTC charges California group with price-fixing conspiracy under state trade laws.

The Supreme Court having given a nod to the Justice Dept. in its campaign to outlaw price fixing that has flourished through various state legislative enactments, the Federal Trade Commission has now decided to get into the same fight.

• **State Law a Cloak?**—Last week FTC issued a complaint against the Grocery Distributors Assn. of Northern California, charging that various individuals and companies, including the mammoth Safeway chain, have used the state's pioneer unfair trade practices act as a cloak for an alleged price-fixing conspiracy.

This was essentially the same charge which the Antitrust Division of the Justice Dept. had preferred against many of the same defendants and which the Supreme Court had inferentially upheld only last month (BW—May6'44,p5) by refusing to review a circuit court decision convicting and fining several California retail grocery associations.

• **Source of Supply Hit**—The FTC complaint has only one new wrinkle: It charges that to effect their price-fixing plan the defendants conspired to cut off sources of supply for those retailers who wouldn't agree to price their goods at cost plus a minimum 10% markup permitted under the state law.

The unfair trade practices act, now effective in 29 states, was the answer which the grocery trade evolved to meet the demand of independent retailers for protection against price cutting.

The fair trade law, which permits manufacturers to fix specific resale prices in contracts with retailers, was the first answer to come from the tradesmen's ranks, but drug and liquor producers found it far more to their liking than did grocery manufacturers.

• **Didn't Like Idea**—In the food field, the chains account for the big majority of all sales, and these big mass merchandisers didn't cotton to the idea of having their prices frozen by fair trade contracts at levels desired by the independents. So the grocery industry

CYCLES FOR SALE

Members of radio's quartet, the Merry Macs, clown around one of the surplus Army motorcycles which are proving a windfall for two-wheel motorists. Declared excess for reasons undisclosed, 4,667 of these unused military models are being sold—adding more to the market than WPB's authorized quota of 2,130 civilian motorcycles this year (BW—Feb. 19'44,p68). Although two-wheelers are not rationed, government agencies and war workers are getting first choice on these surpluses. They are being equitably distributed throughout the country under OPA price ceilings of $300 to dealers and about $400 at retail.

We asked 5 foolish women why they don't check ceiling prices

"The storekeeper might get mad"

You're wrong there, lady. Good merchants appreciate customers who keep an eye on ceiling prices, who don't ask them to buy on the black market, who never ask for rationed goods without points, who share and play square with scarce goods.

..."It's too much trouble"

It isn't a lot of trouble to do the little the Government asks—just remember to ask every time you make a purchase, "Is this the ceiling price?" And it's well worth the trouble—if it holds prices down, lessens the danger of inflation.

"We can afford to pay more"

Maybe *you* can, but how about the millions of soldiers' families who must live on Army allotments? Every time you pay black market prices or buy rationed goods without points, you're helping to send prices up—that's the way inflation comes. And *nobody* can afford inflation.

"My store doesn't display ceiling prices"

All retailers will if you keep asking them, "Is this the ceiling price?" It's the law. Ceiling prices must be displayed wherever goods under ceilings are sold. That's the system which has helped to keep prices so much lower in this war than they were in the last.

"I just don't want to do it"

No—and our boys don't want to fight! But they're doing it—magnificently! It's up to you on the home front to do your part to head off rising prices and inflation, help prevent producing a depression for our boys to come home to. Don't be a SABOTEUR on the home front!

Check and be proud! You should be proud if you're the kind of loyal, patriotic American citizen who never pays more than ceiling prices, who pays her ration points in full, who shares and plays square with scarce goods!

It is because of you and millions of women like you—cooperating with American merchants—that the cost of living has gone up only 7 per cent since your Government's price control started.

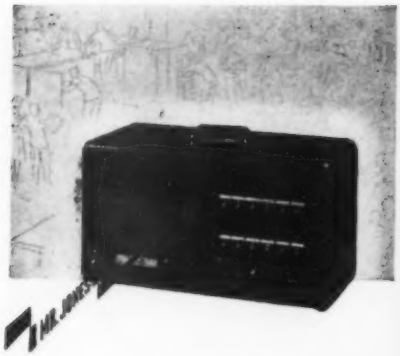
But the end is not yet. So keep up the good work. Ask *every time*—"Is this the ceiling price?" Never buy a single thing that you can do without. Save your money—in the bank, in life insurance, in War Bonds. When you use things up, wear 'em out, make 'em do, or do without . . . you're helping to HOLD DOWN PRICES!

YOUR STORE WILL BE GLAD TO HAVE YOU ASK:

"Is this the ceiling price?"

HELP US KEEP PRICES DOWN

A United States War Message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.



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WEBSTER ELECTRIC Teletalk

Graybar Specialists in 86 key cities are ready to show you how Teletalk brings every key individual in your office as close as your elbow . . . banishes the delays and confusions of hunting for the man you need NOW.

Teletalk comes in sizes most suited to the exact needs of both large and small organizations . . . brings to both the convenience and time saving that only instant communication can provide.

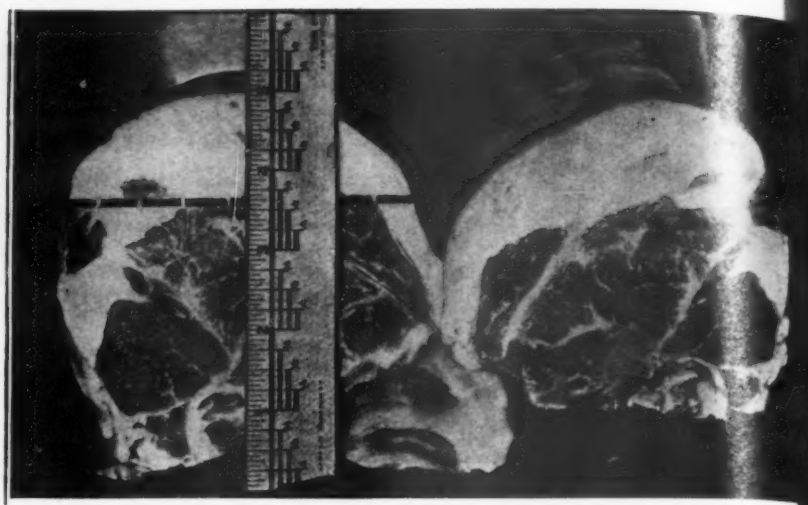
Teletalk is easy to install . . . operates from the light circuit . . . and quickly pays for itself by permitting every key individual to do a better day's work. War orders probably give priority. Your Graybar Specialist can tell you, can appraise your needs and install a Teletalk system quickly.

Call your nearest Graybar house today. Look for the Teletalk listing in your classified telephone book.

Graybar Electric Company, Inc.
Graybar Building, New York City

Offices in Over 80 Principal Cities

Graybar Everything Electrical Graybar Electric Company



OPA'S EXHIBIT A

Two pork loins and a ruler are silent witnesses in OPA's suit to force four Chicago packers to trim fat from their meats (BW—Jun.10'44,p79). The measuring stick shows more than 1¼ in. of fat although OPA regulations permit only ½ in. Government action against Swift, Armour, Wilson, and Cudahy packing houses is the opening gun in a long series of similar suits to come. Defense in all of them will be the manpower shortage and the impossibility of determining a meat's fat content without cutting it open.

worked out the unfair practices act which prohibits sales at less than cost plus a specified markup.

Since chains acquire their goods more cheaply than independents, such laws preserve the chains' competitive position.

• **Same Approach**—In its attack on the unfair trade acts, the Justice Dept. has used the same approach as in fighting the fair trade acts, now operative in 45 states (BW—Apr.15'44,p7). It doesn't attack the constitutionality of the laws; instead it seeks out collusive action on the part of groups particularly interested in enforcement of the laws and brings antitrust charges.

STORE BUYS AUDITORIUM

Needing room for expansion, Lazarus & Co., Columbus (Ohio) department store, bought a hall last week.

For $175,000, the company acquired the Columbus Auditorium, on Front St. adjoining the High St. frontage of Lazarus. Simon Lazarus, company president, said the building would be remodeled to house departments as yet unannounced.

Rich in the history of Columbus civic events and convention gatherings, the auditorium had become outmoded by the newer Memorial Hall. The orchestra floor and balcony of the old auditorium seat 5,200, but the last five years have seen fewer than a score of conventions meeting there.

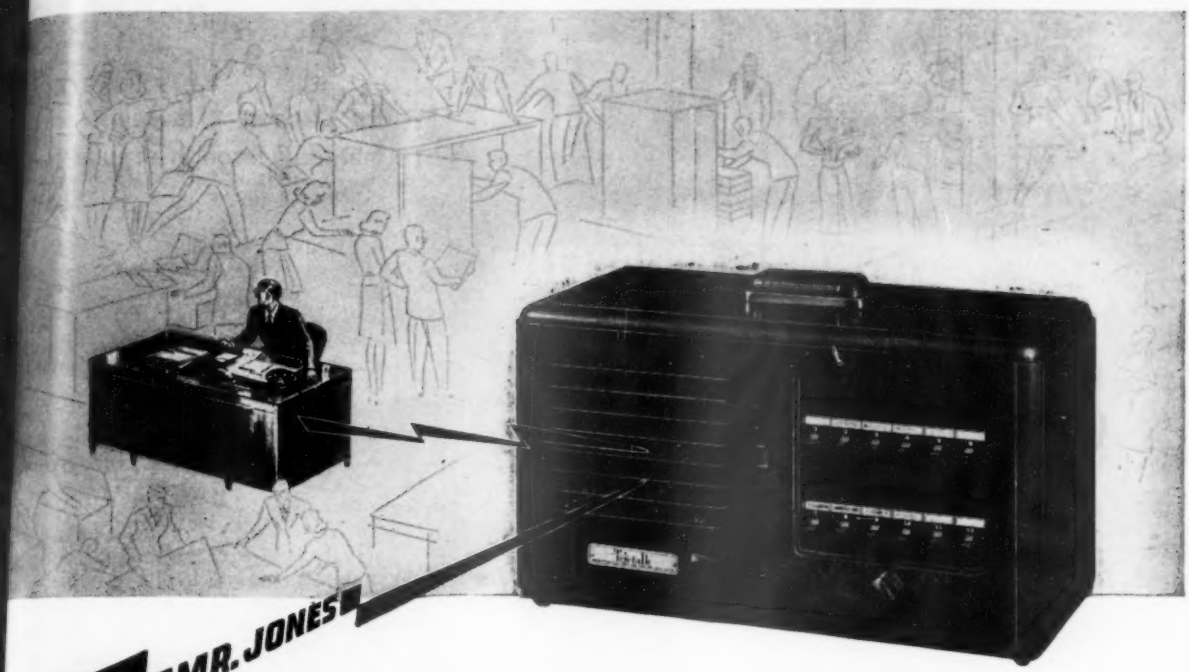
FLOUR MILLERS ACQUITTED

A jury verdict of guilty in an antitrust action against a group of flour millers and their national trade association has been set aside at Chicago in U. S. District Court by Judge Philip L. Sullivan, who said that he was convinced that the defendants had not been proved guilty beyond all reasonable doubt.

Fifteen flour milling companies, eleven of their executives, and the Millers National Federation were charged with a conspiracy to fix the price of flour packaged for family use through price schedules on packaging of bulk flour. Defense counsel denied a conspiracy and claimed that it is impossible to fix prices because of the necessity for using different types of material for blending.

The price schedule to which the government objected has been in use for 40 years, according to the millers, who maintain that the plan provides for an orderly industry and benefits the consumer. The schedules enable customers of millers to know at what price packaged flour will sell.

After the jury of eight women and four men returned its verdict following two and one-half hours' deliberation, Judge Sullivan granted defense counsel's motion to set aside the verdict and enter a judgment acquittal for all the defendants. The group includes some of the largest U. S. millers.



Did You Lose a Needle, Mister?

Don't make a haystack out of your office with messengers scurrying hither and yon trying to find the man you want to talk to NOW . . . and can't find.

Whether he is the stock room clerk, the kid who sorts the mail or the vice-president in charge of operations, the man you want to talk to becomes the most important person in your organization.

Teletalk Amplified Intercommunication keeps him . . . and every other key individual . . . as close as your elbow . . . banishes waiting, hunting, running about the office . . . gives the quick, easy, convenient, instant contact busy executives must have as they try to do two men's work these days.

You aren't the only one who saves this time and precious energy, either. Multiply Teletalk's efficient cooperation by every one of your key department heads and you will have some idea of the savings that this modern, dignified method of office intercommunication can provide. Flexible to fit the needs of either a large or a small organization, Teletalk brings to every business a calm, orderly atmosphere most conducive to efficient work.

Now, in these war-busy days, is the time to banish forever from your organization the waste and confusion of messengers, corridor confabs, clanging bells or buzzer systems that merely add to turmoil. You will always wonder how you got along without Teletalk.

War orders probably give you proper priority. Ask the Teletalk representative near you . . . listed in your classified telephone directory as shown below. If you do not find him, write and let us see that you are properly contacted.

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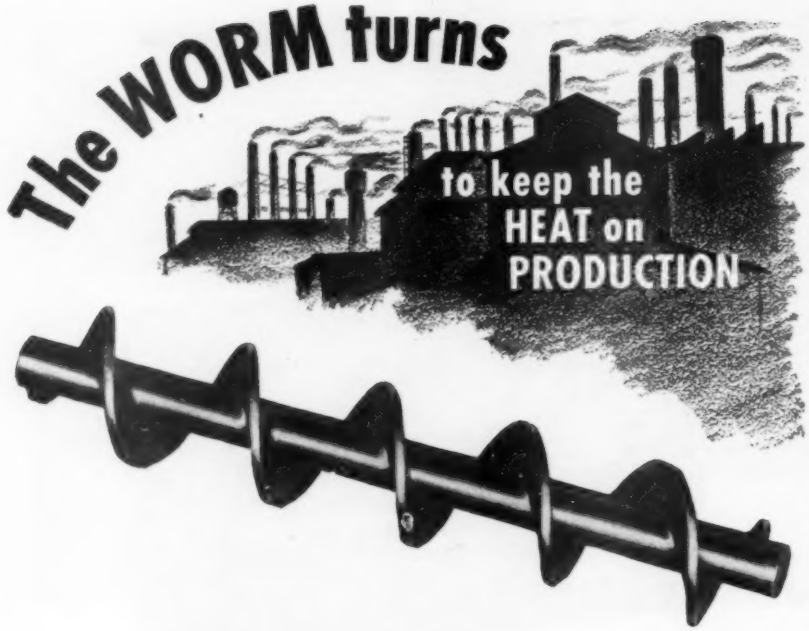

Tough Problem + Stainless Steel = Product Improvement

Day and night, the whole year long, in thousands of plants, a *Stainless* Steel worm steadily feeds coal into automatic stokers.

It's a grueling endurance test that calls for lasting resistance to wear, heat and corrosion—a made-to-order job for Carpenter *Stainless* Steel. Yet not too long ago, stoker worms rated as first class headaches. But now, thanks to *Stainless* Steel, they can be installed and forgotten.

The same dependable, unfailing performance of many useful products in your office, home or plant can frequently be traced to this *Stainless* Steel, used for some vital part . . . used because of Carpenter's pioneering in making *Stainless* more ductile and easier-to-machine, less costly to fabricate.

Must your new or redesigned products meet special heat or corrosion problems? Is high strength/weight ratio a factor? What about permanent, bright, eye-appealing surface finishes? You get all of these advantages when you use Carpenter *Stainless* Steels. Your nearby Carpenter representative is ready to help you apply these steels to your specific problems. Call him in or write us at the mill.

THE CARPENTER STEEL COMPANY, Reading, Pa.

Carpenter
STAINLESS STEELS

. . . for
Strength
Rigidity
Heat Resistance
Corrosion Resistance
Longer Product Life
Sales Appeal

BRANCHES AT
Chicago, Cleveland, Detroit, Hartford,
St. Louis, Indianapolis, New York, Philadelphia

Guinea Pig Plan

SWPA evolves a system for disposal of surplus aircraft materials through regular trade channels.

Means of disposing of surplus aircraft materials in excess of predetermined minimum requirements have been worked out by the Surplus War Property Administration. The program is the first step-by-step plan developed by SWPA since its enunciation of principles (BW—May6'44,p24) for disposal of a possible 50 billion dollars in leftover materials of all kinds by the time the war ends.

• **Inventories Required**—Metals Reserve Co. is the agency chosen to handle the actual cleanup of aircraft steel, aluminum, copper, and hardware, with more items probably to be added. Metals Reserve joins hands in the program with the WPB Aircraft Scheduling Unit, the Army Air Forces, and the Navy Bureau of Aeronautics.

About 400 contractors thus far specified, and 300 more to be added, will file inventories of surpluses as they develop. Such surpluses must be inventoried and segregated. After Wright Field's Aircraft Scheduling Unit gets these reports, it will offer the inventories to the Army Air Service Command and the Navy Aviation Supply Office to fill out their stocks.

• **Warehouse Distribution**—After the lists are screened by the Army and Navy, they will be sent to Metals Reserve Co. and Murray Cook, a New York agent of that government company.

Actual inspection will follow, undertaken by representatives of a number of warehouses through the country now being designated under Cook as agents of MRC. In the main these warehouses are the ones which have carried special aircraft materials and hardware since the war began, under arrangements with Wright Field.

After inspection by the warehouse men, the surpluses will be ordered either scrapped (in the case of unusable material) or shipped to the warehouse or direct to a buyer. After receipt at destination the warehouse takes title for MRC and puts the merchandise on sale.

• **Service Fee Allowed**—When sale is made, always at going market prices, the actual costs involved plus a warehouse service fee are deducted, and the balance sent to MRC. These operations should put large paper profits on the MRC books, inasmuch as that agency will have to pay nothing to acquire the

LARGEST IN THE WORLD

View at front of stoker. Coal is fed automatically onto traveling grate from large hopper above. Ash is discharged continuously at the rear.

Visualize the grate of the average house heating furnace and enlarge it in your mind to a surface 28 feet long by 24 feet wide – 672 sq ft. You will then have an accurate idea of the stoker that has more grate surface than any other stoker in the world. You could arrange all your living room furniture, including the piano, on its spacious grate and still have space to spare.

This mammoth machine, weighing 250,000 pounds, burns more coal in a single hour than a good sized home would need for an entire heating season. And it's a low priced type of anthracite that your home furnace couldn't burn – so small that all particles pass through an opening of 3/32nds of an inch. Installed in a large chemical plant, this C-E Stoker helps to produce vitally important war materials.

Combustion Engineering has designed and built many other large stokers, some almost as large as the one described here. On the other hand, there are C-E Stokers with grate surfaces as small as 7 sq ft – small enough for a large residence. Between these extremes, C-E Stokers cover every requirement with seven basic designs comprising the most extensive line of stoker equipment offered by any manufacturer. It takes experience to build such a line of stokers and C-E designs reflect over 50 years of continuous identification with the stoker business. During this half century, C-E Stokers have been applied to boilers with an aggregate capacity of more than 5,000,000 horsepower.

If you want top performance and economy in your next stoker installation the way to obtain them is by specifying C-E.

A-803

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200 MADISON AVENUE, NEW YORK 16, N. Y.

C-E PRODUCTS INCLUDE ALL TYPES OF BOILERS, FURNACES, PULVERIZED FUEL SYSTEMS AND STOKERS; ALSO SUPERHEATERS, ECONOMIZERS AND AIR HEATERS

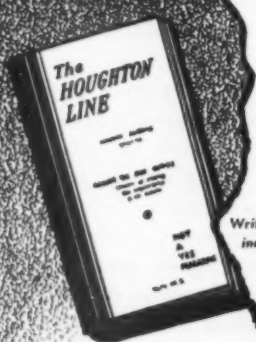
In December, 1940, The Near Editor of The Houghton Line, wrote:

The HOUGHTON LINE

"If we really want England to win, we must give her more help than we are giving now. It is all very well to hand over a few old destroyers in exchange for naval bases, though we got the best of that bargain. It is all very well to sell her half our planes.

"But the time is bound to come when England will need credits . . . and when she may need more men to finish off the war. Then the other democratic nations must give her what she needs, or else democracy itself may be done for . . .

"It seems to me that more and more of our people recognize that when it comes to a finish fight with Naziism we shall have to take part in it, not only with munitions but with men."



Write for copy of America's best known industrial magazine, now in its 37th year.

That was written a year before that fateful Sunday morning in Hawaii—before America had sensed how close it was to being in the fight.

That sort of forward thinking is pretty typical of the Houghton organization which the "Near Editor" heads. Now that the fight for industrial supremacy has been won, and while the worst of the fighting still lies ahead, Houghton "departments of tomorrow" are planning for the battle of open competition soon to come—the days when men will need the latest and highest quality processing oils and leathers to do an efficient plant job.

We will welcome your inquiries for the things to come—or those things already here, ready for immediate aid along metal-working, textile, transmission or lubrication lines.

E. F. HOUGHTON & CO.

★ **303 West Lehigh Ave. • Philadelphia 33, Pa.** ★

surpluses under a transfer of accou ability.

Conceivably this program will op stores of steel and aluminum to civili goods plants, if they can use those mat rials. The objective is to get rid the surpluses as they accumulate, a MRC may be able to obtain exceptio from L and M limitation orders, shou civilian industries want surplus mat rials which cannot be sold back int war uses.

• **Regular Trade Channels**—Industr sources approve the plan primarily be cause it employs customary trade chan nels and bypasses speculative interest This is expected to be the factor whic will keep warehouse men working o the surplus stores rather than the mor easily handled stocks brought directly from mills and fabricators.

CBS TO GET WKRC

The Columbia Broadcasting System will change its Cincinnati outlet June 1, 1945, in what is the latest move in that city's radio upheaval. In giving up the 50,000-watt WCKY, which has carried CBS programs into the Cincinnati area since 1939, and taking on the present Mutual-affiliated WKRC with 5,000-watt day-time and 1,000-watt night-time power, Columbia plugs back into the outlet it had for eight years before WKRC was sold to the Times-Star Co. in 1939.

Getting back into the CBS network will bring WKRC into much closer competition with National Broadcasting Co.'s powerful WLW, owned by the Crosley Corp., which figured in another recent Cincinnati radio deal. Crosley sold its WSAI to Marshall Field III to get square with the regulations of the Federal Communications Act which bans one ownership of two stations in the same area (BW—Jun.10 '44,p82).

Unofficial trade estimates guess WCKY will lose $250,000 a year as a result of breaking the CBS connection. There is still no indication that the station will give up its newly independent status and pick up the Mutual affiliation WKRC is relinquishing.

YEAR'S OUTPUT SOLD

Businessmen who have been asking how industry responds to order-now-for-postwar-delivery plans got at least one definite answer last week.

American Type Founders, Inc., announced that it had already sold a full year's production under its priority certificate plan by which customers can insure prompt postwar delivery by paying $100 with orders now. Certificates carry a 60-day cancellation clause.

57 ALUNDUM ABRASIVE

. . . Another Norton Abrasive to Help You Meet Your Grinding Jobs More Exactly.

Outstandingly Successful for Many Jobs in These Fields:

- Cylindrical Grinding
- Centerless Grinding
- Internal Grinding
- Surface Grinding
- Tool Grinding
- Snagging

Thoroughly tested—and never have field tests of a new grinding wheel been more successful in a half century of Norton experience.

Its use up to now has been restricted to critical war jobs, because of limited production facilities. Now, it is available for general use. Ask the Norton abrasive engineer about 57 Alundum, the latest of the Norton abrasives for grinding wheels.

Norton Co., Worcester 6, Mass.

Behr-Manning, Troy, N. Y., is a Norton Division

NORTON ABRASIVES

International

A GOING CONCERN . . . GONE to the limbo of lost enterprises, in a few dismaying hours. Too often that is the penalty for failure to prepare for one of the most common hazards of business . . . fire. With the building in ruins, its contents destroyed and customers transferring their orders to competitors, any plans for the future may well seem futile. Experience shows that 2 out of every 5 burned-out businesses *never resume operations.*

FIRE HAZARDS HAVE MULTIPLIED. Increased number of workers, many untrained in fire prevention; three-shift production with less time for "housekeeping"; new materials, many inflammable; overworked motors . . . all such conditions increase the threat of a disastrous fire at a time when losses are almost irreplaceable. What precautions have you taken to protect what you have built up?

FIRE CAN BE CONTROLLED. There is one way—a *proved* way—of checking this needless destruction *at the source, when it starts* . . . a Grinnell Automatic Sprinkler System. During the past ten years, over 8000 fires in Grinnell-protected buildings have put themselves out before major damage could occur.

• • •

See that your buildings have this 24-hour-a-day safeguard before fire strikes. Experienced Grinnell engineers will help you plan dependable protection. Get in touch with them . . . write, or call your nearby Grinnell office.

Grinnell Company, Inc.,
Executive Offices, Providence 1, R. I.
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QUESTIONS AND ANSWERS
about Automatic Sprinkler Fire Protection

Q. My business is highly specialized. Can you meet its conditions?
A. There are specialized types of Grinnell Systems to meet *all* conditions. Even the risk of a neighboring firetrap that doesn't belong to you.

Q. Suppose fire starts in a place where there's no Grinnell Sprinkler Head?
A. If Grinnell engineered the job, it couldn't. A Grinnell engineered layout covers every nook and corner.

GRINNELL
AUTOMATIC SPRINKLERS
For Production Protection

HE WAR AND BUSINESS ABROAD

Don't let the flood of encouraging news from Normandy and Italy obscure the full significance of recent momentous developments in the Pacific.

•

Saipan will rank with Stalingrad, El Alamein, and Guadalcanal as a major turning point in this war because:

(1) It marks the piercing of Japan's middle ring of defenses.

(2) It brings U. S. bombers within 1,500 miles of Tokyo in the same week the famous B-29 (page 119) flew at least that far to bomb Japan's great steel mills at Yawata (map, page 16).

(3) It has set the stage for a naval showdown in the Pacific.

•

The Yawata raid by Superfortresses, taking off from bases in oil-starved China, throws into the limelight an unembellished statement (BW—Mar.18 '44,p54) by the late Frank Knox, then Secretary of the Navy: **"We are building a pipeline into China now."**

•

Ignore reports that Japan's industries are too widely dispersed to be effectively bombed.

Nearly two-thirds of Nipponese industrial output comes from two regions —Tokyo-Yokohama and Osaka-Kobe—and they are barely 200 miles apart.

Yawata, the Pittsburgh of Japan, is in the center of Nippon's third vulnerable target area which includes Shimonoseki, Moji, and Nagasaki.

While Allied bombers and submarines pick off Japanese ships (the total sunk has passed 750), **Superfortresses will now concentrate on knocking out the facilities for replacement.**

•

Incidentally, don't overlook the fact that **the U. S. has assumed the main responsibility for pushing the Japanese out of the Pacific islands.**

This will give us a strong bargaining position when the disposal of Japan's mandated islands is decided after the war.

Also, the Administration is strengthened in its stand (proposed last week, through Vice-President Wallace) that British, Dutch, and French colonial empire in the Orient gradually be made independent after the pattern established in the Philippines.

•

Possession of Japan's mandated islands is more a security issue than an aid to future airways.

The Pacific Ocean, as well as the North Pole, will not figure importantly in the trunk air routes of the future (map, page 32), according to a survey, "America and the Air Age," issued this week by the Brookings Institution.

Few, if any, major airways, according to the study, will go as far north as the Arctic Circle because the shortest routes between population centers do not lie that way.

Likewise, the transpacific airway from San Francisco to Shanghai is more than 2,500 miles longer than a route entirely over land.

•

As anticipated (BW—Jun.17'44,p115), **Allied headquarters in Britain now hint that there will be no further landings across the Channel until masses of heavy equipment are delivered** and an adequate backlog of supplies accumulated in Normandy to maintain an army of at least half a million men on an active front.

Reports from de Gaullist quarters that they have selected a town in

Brittany as an ideal spot for the first seat of the provisional Free France government suggests that France's biggest peninsula—with the ports of St. Nazaire and Brest (BW—Jun.17'44,p16)—may be next on Eisenhower's liberation schedule.

•

To meet the mounting threat from the Allies without weakening Nazi strength on active fronts in the west, south, and east, **Hitler may soon be forced to withdraw from exposed and vulnerable Norway and Greece.**

With no more than 60 Nazi divisions reported thus far in Normandy and twice that number of Allied troops poised in Britain for the next move, Berlin may need, to meet a mounting troop replacement shortage, the dozen or more divisions in Norway and the five said to be in Greece.

•

You can expect Washington to delay as long as possible a showdown on the issue of recognizing de Gaulle (cover) and the French National Committee. There is even a question whether de Gaulle will come to Washington in July.

Hope of Roosevelt is that enough metropolitan centers in France will be liberated before the issue is forced to provide a fair sample of the true reaction of the French people to the self-imposed head of their empire.

•

Roosevelt's stand needs to be understood:

He insists that de Gaulle is a trained soldier, not an experienced politician.

He points out that he was not widely known in France before the war; that he has had no real experience as a governmental administrator; that there is no indication yet that liberated France will want him as a leader; his popularity among the few hundred thousand nationals now outside France is no fair index of the attitude of 40 million Frenchmen.

•

Despite London's recent efforts to smooth relations with France, neither London nor Moscow will break the united front which was agreed upon at Teheran.

Official British reaction to de Gaulle, personally, is as antagonistic as Washington's, but both Churchill and Eden feel that as long as no other Frenchman is available, it might be wise to work with him.

In contrast with Roosevelt, they fear that if the field is left wide open for all Frenchmen to seek authority from scratch after France is liberated, there is bound to be confusion. **London dreads this because the British consider that a strong France is vital to British security.**

•

There is a special long-term significance connected with the problem.

France will be the leading power outside the Big Three of the United Nations. What we do about the choice of a government in France is of the utmost importance to the smaller occupied nations. This fact magnifies the gamble being taken by Roosevelt in opposing the stubborn will of de Gaulle should he ultimately prove the choice of the French public.

•

Because both Montreal and Ottawa refuse to deny it, the report is apparently true—that Canadian Vickers has received an order from Brazil for four ships. It is one result, no doubt, of the Dominion's skillfully laid plans to develop more trade within the hemisphere (BW—Apr.22'44,p116).

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hile Expands

Cut off from customary ports, country boosts output of foodstuffs, consumer goods. ving costs rise sharply.

As one of the hemisphere's chief neral producers, Chile has experi- ced a substantial wartime boom. Ex- ts of metals are at peak levels, al- ough demand is now slackening. Cut from normal sources of consumer ds and industrial replacement im- ts, Chile has experienced acute mestic shortages.

Living Costs Rise—Despite efforts at ce control, the cost of foods has n 120% since 1939; the general t-of-living index is up 100%; and lesale prices are also 100% above 39.

Chilean manufacturers, endeavoring make up import deficits and to sup- new demand resulting from stepped- economic activity, have expanded duction nearly 20% since 1939.

Six-Year Plan—As a traditional food- porting nation, Chile has been forced expand agricultural production to aintain the domestic economy. In 42, a six-year plan of agricultural de- lopment was launched: (1) to check rising food costs; (2) to provide export- able food products to neighboring mar- kets; and (3) to "balance" farm pro- duction in the long-range interests of the national economy.

The agricultural development pro- gram is closely linked with other national economic development projects—with power and irrigation plans, trade de- velopment, and population resettlement proposals.

• **To Spend $100,000,000**—Chile's de- velopment corporation—Corporacion de Fomento de la Produccion—is the biggest government instrument for furthering economic expansion. It is sometimes de- scribed as a combined Reconstruction Finance Corp. and National Resources Planning Board with more authority than either.

The corporation was set up in 1939 to import machinery, to extend con- sumption of domestic products, and to plan power and irrigation projects, ex- ploitation of resources, and systematic economic development.

Its plans involve expenditures of more than $100,000,000—part supplied by the U. S. Import-Export Bank, part by the Chilean government, and part by private Chilean investors.

• **Gets U. S. Equipment**—Already well under way is an 18-year electrification plan which envisages expenditures dur- ing the next three years of around $15,000,000 (BW—Jan.1'44,p44). Two- thirds of this amount may be spent in the U. S. for materials and equipment.

For years Chile has sought to find and exploit petroleum deposits, and with explorations advancing satisfac- torily the corporation expects to spend close to $500,000 on American drilling equipment.

American steel mill machinery has been purchased by the corporation to expand the capacity of existing mills in Chile (BW—Oct.3'42,p84).

• **Industries Expand**—Two American cement plants have been moved to Chile and are now in production. After the war Chile hopes to have cement output sufficient to meet the needs of other countries (BW—Aug.7'43,p58).

A complete new 100,000-ton-a-year steel mill is scheduled for erection at Concepcion, and part of the mill equip- ment is awaiting transportation from the U. S. This new mill will make Chile self-sufficient in many basic steel items—thin sheets and plates, light structural shapes, and reinforcing steel.

• **New Companies Formed**—Recent data on industrialization are not avail- able, but the war-induced trend was well under way in 1941. During that year, 22 new corporations with a cap- italization of nearly $7,000,000 were approved by the Dept. of Manufactur- ing Industries of the Chilean Ministry of Development. At the same time, 196 industrial plants with $3,000,000 capitalization were approved. Some of these new firms were to engage in the manufacture of glass, dyes, edible oils, chemicals, electrical goods, and textiles.

Chilean development schemes are being directed toward correcting a seri- ous imbalance in the national economy. Under normal conditions, Chile exports

LATIN AMERICA IV

This is the fourth in a series of reports interpreting wartime de- velopments in Latin America that will affect postwar American trade.

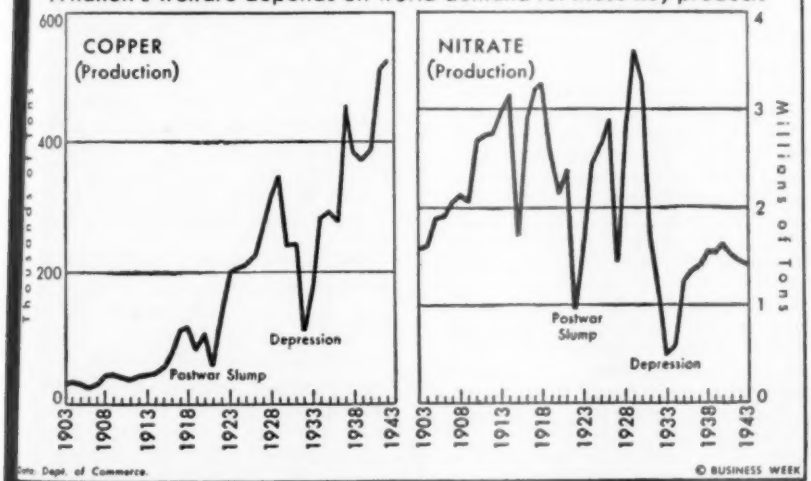
In this report, Business Week surveys Chilean agriculture, min- ing, and industry, the changes which have occurred during the war, and their implications for the future.

Previous reports have dealt with U. S.-Latin-American trade (BW —Apr.8'44,p113), changes during the past five years in Latin-Amer- ican industry, mining, agriculture, and intra-Latin-American trade (BW—May20'44,p22), and Mex- ico (BW—Jun.10'44,p109).

Subsequent reports will deal with wartime changes in indi- vidual economies.

CHILE'S COPPER AND NITRATES

A nation's welfare depends on world demand for these key products



Copper and nitrates comprised 66% of Chilean exports in 1936, 83% in 1942. A dip in world use of these commodities deals a staggering blow to the Chilean economy. Increased competition of synthetic nitrogen, rising costs, and exhaustion of some ore bodies have recently held Chilean nitrate output below the levels attained between 1905-1920 and 1923-1930. In the years 1937-1941, nitrate sales fell from 28% to 16% of exports, while sales of copper rose from 38% to 60% of total exports.

Chilean Economy Depends on Mining

Chile, with an area of 286,396 sq. mi., is bigger than Texas. It ranks sixth in size among the republics of South America. Chile's 2,600-mi. length is equivalent to the distance between San Francisco and Boston. About one-third of Chile's 5,023,539 population derives its livelihood from agriculture and fishing, but mining is Chile's key industry.

I. MINING

Chile is the world's second largest producer of copper, and stands first in Latin America in output of nitrate, iodine, coal, and iron. It is the second largest Latin-American producer of gold, and ranks fourth in silver production. The Chilean economy is heavily dependent upon copper and nitrate exports—these two commodities comprise around 75% of total exports.

Chilean coal production reached a record in 1943, five-year output having been as follows (in tons):

1939	2,039,000
1940	2,132,000
1941	2,258,000
1942	2,371,000
1943	2,510,000

II. MANUFACTURING

Industrial employment in Chile was 340,000 in 1941. The value of manufacturing production was about $210,000,000 in 1939.

Chile's 398 chemical establishments produced $19,638,000 worth of goods in 1940; employment was 7,389.

● **Nearly 5,000 Looms**—The textile industry, with 237 establishments, employed 14,170 workers in 1940. Production of 4,850 looms amounted to 41,375,000 meters of cloth. The value of production in the previous year was about $21,000,000—nearly 10% of the total estimated value of manufacturing production in Chile.

Chile's 60 tanneries, in the latest year reported, processed 5,500 tons of cattle hides, 7,700,000 sq. ft. of sheepskins, and 8,500,000 sq. ft. of goatskins and other hides. Chile's shoe industry has capacity for 13,000,000 pairs, but production in 1940 was only 5,146,000 pairs. During the past few years output has risen, and 1943 production was 7% above 1942.

● **Active Wood Industry**—The tariff-protected wood manufacturing industry is scattered throughout the country close to sources of supply. A fairly large plywood firm, employing 1,200 workers, had an output of $2,500,000 in 1940. Paper and pulp production in 1941 was estimated to fill 80% of domestic needs.

The tobacco processing industry, employing 1,500 operatives in 40 factories, has had an output valued at around $5,000,000 in recent years.

● **May Export Cement**—Chile's expanded cement industry (BW—Aug.7'43,p58) has made the country self-sufficient for this product and put it in a position to export to nearby nations.

With the index of manufacturing at 119 in 1943 (1939 = 100), sugar processing, glass, coke, soap and tar, and paper production all registered declines since 1942 of from 3% (paper) to 20% (sugar). Increases occurred during 1943 in production of matches (7%), footwear (7%), knitting wool (5%), beer (4%), tobacco (4%), cement (3%), and textiles (15%).

● **Survey of Forests**—A United States technical mission from the Dept. of Agriculture is engaged in studying Chile's forests, wood utilization, and forest preservation. About 9,000,000 acres, or 5% of the total land area of Chile, is forested. Output of lumber has declined during the war, production having been (in b. ft.):

1936	233,450,000
1939	304,040,000
1940	238,240,000
1941	273,980,000
1942	198,295,000

III. AGRICULTURE

Chile is not self-sufficient in foodstuffs, although rapid expansion of agricultural output during the past five years has improved its supply position. Official estimates of 1943 crops, compared with 1942, showed increases in production: wheat 10%, barley 5%, oats 17%, rye 18%, rice 77%, beans 1%, and corn 11%.

● **U. S. Buys Fruit**—Chilean fruit has important U. S. and European markets, in normal times, because of the reversal of seasons below the equator.

Chile's livestock industry is located in the Central Valley and in the Magallanes district to the south. In 1942, the cattle population was estimated at 2,396,000, a decline of 7% from the last census in 1936. The number of sheep in Chile was estimated at 6,040,000 in 1943, located chiefly in Magallanes. Slaughter in freezing establishments during the 1943 season ran to 1,026,000 head, compared with the 1942 total of 995,685, and an average of 975,734 in the previous eight years.

● **Fishing Studied**—An American technical mission currently is studying the Chilean fishing conditions with a view toward recommending development techniques. Chile has 22 fish canneries, and a new fish refrigerating plant opened earlier this year in Santiago. Until 1942 Chile was a net importer of fish, but in that year exported 75 tons more than it imported.

Production, in recent years, of canned fish has been:

1936	1,098 tons
1940	1,345 tons
1942	2,380 tons

Nevertheless, canneries operated at only 42% of capacity in 1942.

chiefly mineral products. Before war copper and nitrates comprised 7[illegible] of exports, 82% in 1940 and 19[illegible] and 83% in 1942. Manufactures, ot[illegible] than minerals, were only 3% of expo[illegible] the remainder consisting of agricultu[illegible] and forest products.

● **Follows World Demand**—The expe[illegible] ence of the depression, and the slu[illegible] which followed the last war, demo[illegible] strated how closely Chilean prosper[illegible] was linked with world demand for th[illegible] two products. In 1929, for instan[illegible] Chilean exports amounted to nea[illegible] $460,000,000. By 1932 they had fall[illegible] to around $60,000,000. In 1937 th[illegible] were back to $190,000,000 but have n[illegible] regained that level since. Exports [illegible] 1943 amounted to $177,000,000, l[illegible] than 1% above the previous year.

During this war, the United Sta[illegible] has held first rank in Chile's forei[illegible] trade, and while the United Kingdo[illegible] slipped badly, other Latin-Americ[illegible] nations have increased in importance [illegible] suppliers and customers. In 1942 Chil[illegible] exports to other Latin republi[illegible] amounted to $22,000,000, nearly thr[illegible] times the 1940 total, and 55% abo[illegible] 1941. In 1943 this trend accelerated.

In 1941 the United States supplie[illegible] 56% of Chilean imports, in 1942, 45% [illegible] In 1943, while Latin-American cou[illegible] tries—led by Peru, Argentina, and Bra[illegible] —provided 50% of Chilean imports, th[illegible] U. S. supplied only 37%.

● **Imports on Uptrend**—Chile h[illegible] boosted imports of Peruvian sug[illegible] Argentine drugs and manufactures, an[illegible] Brazilian cotton and other manufacture[illegible] Chilean imports from Brazil in 194[illegible] amounting to around $8,500,000, co[illegible] sisted of textiles (39%), foodstuff[illegible] chiefly coffee and mate (33%), sem[illegible] manufactures, mainly cotton ya[illegible] (21%), and manufactures (7%). Abo[illegible] half the manufactures were iron an[illegible] steel products, the other half rubbe[illegible] goods. In return, Chile exported meta[illegible] and fertilizers valued at about $6,000[illegible] 000.

Between 1939 and the end of 194[illegible] Chile's gold and foreign exchange hol[illegible] ings rose from $36,000,000 to $5[illegible] 000,000. In 1943, Chile's favorab[illegible] trade balance—not all available for fo[illegible] eign purchases because of necessary re[illegible] tention of metal for currency backin[illegible] and payment of service charges—amounted to $46,000,000, and was run[illegible] ning at the rate of $6,000,000 a mont[illegible] early in 1944.

● **Expansion Controlled**—Except for th[illegible] return of mining activity to old pea[illegible] levels, expansion in Chile has been care[illegible] fully controlled in anticipation of re[illegible] newed foreign competition after the wa[illegible] and with fear of the effects of collaps[illegible] of uneconomic enterprises. Chile dis[illegible] avows any intention of protecting un[illegible]

…unerative establishments against …ign competition, but the govern…nt is determined to foster, by what…er means may be necessary, essential …sumer-goods industries deemed essen…l to the welfare of the national …nomy.

Industrial expansion in Chile has not …en accompanied by a parallel increase …her in the supply or in the skill of …or, and measures to train workers, …hnicians, and engineers—both at home …d abroad—are included in Chile's post…r plans.

Must Watch Funds—Income from …es on copper and nitrate sales is … prime importance to the national …ernment and to the development …poration. With the end of the war …ely to mean a sharp drop in copper …ports, Chile will be forced to hus…nd the funds accumulated during the …r and to direct expenditures abroad …r industrial equipment toward those …es most likely to increase the na…n's ability to earn or to save foreign …change in international trade.

Treaty Signed

Sweden announces a trade agreement with Finland, reveals that sales of ball bearings to Germany will be curtailed.

Almost with the same breath last …ek Sweden let it be known:

(1) Sales to Germany of certain types …f ball bearings will be curtailed.

(2) A new six-month trade treaty has …en negotiated with Finland—involving …iefly Swedish exports of iron, steel, …d machinery.

The treaty, covering the last half of …944, is the fourth in a series of similar …eaties begun in 1942 with a pact cov…ing Swedish exports in the second half …f that year valued at $4,750,000.

Exports Drop—During 1943, exports …hipped under two treaty agreements …mounted to $7,750,000—a slight drop …o monthly value. Exports in 1944 will …mount to $5,375,000—a further drop of …bout 30%.

During the last six months of this …ar Sweden will export $575,000 in iron …d steel; $925,000 in machinery; and …425,000 in other metal products.

Barter or Cash—Total Swedish exports …n 1943 amounted to about $287,000,…00, of which close to 50%—$137,000,…00—went to Germany. Swedish exports …o Finland constituted less than 3% of …he total. Trade with Finland is on the …ame basis as that with Germany: strict …arter or immediate cash payment—no …redits.

Electric Truck handling 25 Tons per M. H. replaces wheelbarrows handling only 1.39 tons

● Wartime demands for speedier production have caused executives to look for new ways of doing old jobs. Many of them are discovering how they can step up operations—and at the same time cut costs—by the use of battery electric trucks.

Take the case of the plant where there was a problem of how to speed the handling of magnesite and chrome ore. A gang of 9 men with shovels and wheelbarrows were required to unload and store two carloads of ore in an 8-hour day.

● The handling time was cut in half by the use of an electric scoop truck. Operated by only one man, this truck can handle 25 tons per man hour—while men with wheelbarrows could handle only 1.39 tons per man hour.

The truck also eliminates physical strain on workers who had formerly moved these heavy bulk commodities manually. In addition, it cuts the cost of handling every carload of ore by $68.00.

Before you complete your plans for after Victory, we suggest you investigate how you can reduce your own material handling costs by using electric trucks. Your inquiries are invited.

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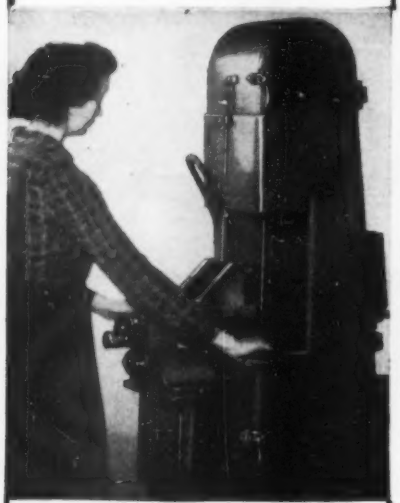

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CANADA

C.C.F. Advances

Canadian socialists win control in Saskatchewan, but old-line parties claim election doesn't indicate federal trend.

OTTAWA—Don't miss, but don't exaggerate, the significance of last week's landslide victory for Canada's socialist Canadian Commonwealth Federation (C.C.F.) party in the provincial election in Saskatchewan.

• **Gain 33 Seats**—Realists among Canada's political leaders admit that it has important national implications for the Dominion, but politicians of the old-line parties that were virtually liquidated in the Saskatchewan balloting seem to be trying to convince themselves that it means little or nothing federally.

In definitely electing 43 C.C.F. candidates out of a total legislature membership of 51—C.C.F. had only ten seats before the election—Saskatchewan people voted not so much for socialism as in defiance of the antisocialist fear propaganda of the old parties.

• **Negative Opposition**—In the Saskatchewan election campaign, C.C.F. leaders played down the party's socialistic policies, and submitted hardly any proposals for immediate provincial socialization. Their appeal was for ousting the traditional parties which had controlled the province through the 40 years s... it was established, and under which ... katchewan had ten years of acute ... pression.

The old parties, on the other ha... anchored their resistance to a wh... negative program of scare warni... about the danger of social revolut... under C.C.F.

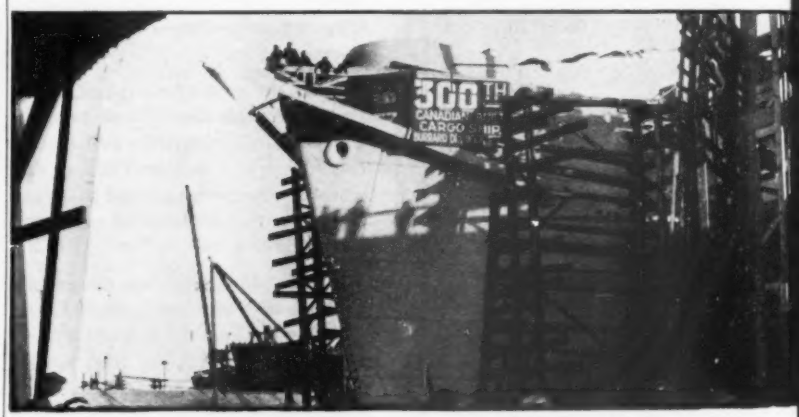
• **Local Issues Involved**—As a pro... vote the result in Saskatchewan is ... mitted by competent observers to ... flect a rising trend in country-wide ... litical thinking, though the protest ... not seen as a true miniature of natio... discontent with the old order.

Local and sectional circumstances t... have no close tie-in with federal p... tics or national economy had a big ... fluence in this agricultural region.

• **Farm Vote Aloof**—Eastern busine... men, as well as politicians of the ... parties, first recognized C.C.F. as ... serious threat when it made its bid ... office in Ontario last year. Althou... C.C.F. failed by only a few seats, op... nents of C.C.F.'s program took cont... from the failure of the C.C.F. appeal ... the farm vote in Ontario. It got the b... of its support from labor.

Old party campaigners drew from t... Ontario result in 1943 the conclusi... that they could keep C.C.F. down fa... erally by emphasizing a conflict of fa... and labor economic interests. They ha... been counting on the big rural vote fr... the prairies. To the extent that it mirr... a national trend, Saskatchewan pro... this strategy ineffective.

• **Federal Election Prospects**—The o... come in Saskatchewan, in the opinion ... cautious Canadian political dopest...



CANADIAN MILESTONE

While Canada launches its 300th cargo vessel, maritime circles buzz with reports that Brazil will buy four Canadian-built ships (page 112). Although small, such a sale would be the Dominion's first to a foreign customer and might open South American outlets for its war-boomed shipbuilding industry (BW—May20'44,p116). Built by Vancouver's Burrard Drydock Co. Ltd., No. 300 marks an important milestone in Canadian construction of 4,700-tonners and of 10,000-ton ships which are of American design.

not mean that the socialistic party ely to come to office in the Domin- in the approaching federal election. hese observers think Canadians ld not vote an entirely new party office at Ottawa in wartime. But admit that the recent victory in prairie province, and the rising elsewhere, give C.C.F. a slightly ter chance than it once seemed to e of capturing the balance of power the federal parliament.

ears of Business—Seriously consider- the spread of political revolt against old-line parties, Canadian business lers admit that they are worried lest the socialist trend indicates that C.F. has a chance of electing a social- government after the war; (2) the C.F.—with its program of national- ing finance and industry—will at t become an effective opposition r the coming federal election; and the old-line Liberal and Progressive nservative parties, in an effort to hold k the C.C.F. tide, will offer a radical ial and economic program.

Party Merger Talked—Another possi- ity is the merger of the two old par- s for a solid front. Neutral observers n't like this, because they figure it uld set up the C.C.F. as the only up to turn to if and when Canadians nt a change of government.

Some students of public opinion be- e all these possibilities underrate the te-getting appeal of C.C.F.'s program. ey point to signs that Canadians are oking for pie in the postwar sky. onths ago a test poll showed nearly % of the Canadians polled wanted a ange in conditions in the Dominion ter the war. Other polls taken at about e same time showed that only about 5% of the Americans polled wanted a ange, but about 60% of the Britons estioned in a third poll wanted post- r political changes.

The Party's Program—The C.C.F. driving for control of the federal gov- nment on an avowed policy of social- m. Its program for nationalization of ivate enterprise covers, in this order: nks, insurance companies, public utili- s, industrial and commercial interests ploiting natural resources, and some anufacturing industries.

In Saskatchewan, the premier-elect, homas Douglas, 39, proposes to rt out with a plan to discourage cen- alization of property in the hands of ortgage companies. His program does ot call for socialization of land held by ivate individuals. He will try to refund askatchewan's $225,000,000 debt; if ondholders are tough, he will look for way around them. Development of ooperatives as an alternative to out- nd-out socialization figures in his plan- ing.

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THE MARKETS

(FINANCE SECTION—PAGE 79)

The stock market recently has kept Wall Street busier than it has been for some time past (page 15), but, despite this, some in the financial district are still managing to find time for a certain amount of old-fashioned back-fence gossip.

• **Recent Rumors**—Typical of what's been going the rounds the last few weeks is a story indicating that purchase of Louisville's Axton-Fisher Tobacco property (BW—May13'44,p71) was being considered by both American Tobacco and P. Lorillard. Another currently hot rumor carries the prediction that their will be an exchange of marriage vows before long by Reynolds Metals, the aluminum producer, and the Curtiss-Wright organization.

The Axton-Fisher rumor was laid to rest on Wednesday of this week when Wall Street got the flash that Jesse W. Tapp, president of the company, was formally announcing sale of the properties of the concern, including real estate, factories, warehouses, manufacturing equipment, trade marks, brands, goodwill, and a substantial part of its valuable 30,000,000-lb. inventory of fine cigarette tobacco, to the untouted Philip Morris & Co.

• **Price Undivulged**—The purchase price which Philip Morris will pay was not immediately made public. However, it was good news to Louisvillians to learn that the new buyer of one of their larger industries intended to keep on manufacturing the various Axton-Fisher brands, concentrating mainly on Twenty Grands and Spuds. They were also pleased to learn that plans call for their home town's eventually becoming a producer of the Philip Morris brands.

The rumor that Reynolds Metals and Curtiss-Wright are about to publish the banns isn't particularly mint gossip. Similar reports have been floating around for the past three years, and the association of the two has been fairly close since Reynolds has supplied Curtiss-Wright with a lot of the latter's subassemblies and miscellaneous parts requirements.

• **Reynolds Expansion**—Some time ago Reynolds bought a Louisville factory for manufacturing Curtiss-Wright wooden planes, and it has since been using this plant to make parts. And less recently there was a report circulating which indicated that some Reynolds executives had tried unsuccessfully to sell the powers-that-be on getting C.-W. to erect a plant at Listerhill, Ala.

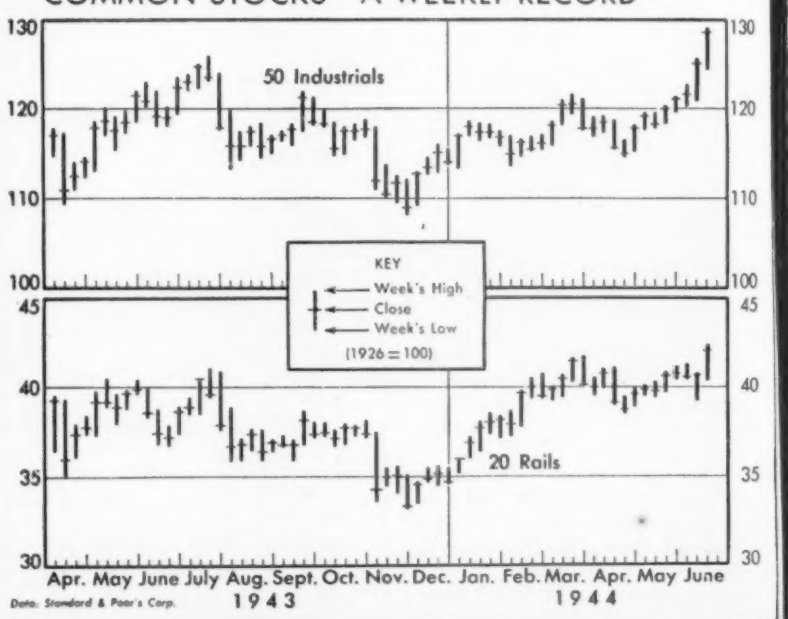
• **Reports Denied**—Whether the current report ultimately will have more substance than similar stories of the past remains to be seen. However, it seems doubtful in view of a flat denial of the report by R. S. Reynolds—who should know since he is Reynolds Metals' head.

Security Price Averages

	This Week	Week Ago	Month Ago	Year Ago
Stocks				
Industrial	128.5	125.1	120.0	119.1
Railroad	42.1	40.7	40.7	37.2
Utility	53.6	52.6	51.2	47.4
Bonds				
Industrial	121.4	121.5	122.1	116.6
Railroad	106.2	106.4	107.1	98.1
Utility	116.1	115.7	115.7	114.5

Data: Standard & Poor's Corp.

COMMON STOCKS—A WEEKLY RECORD



Data: Standard & Poor's Corp.

THE TRADING POST

ls and Techniques

very so often the impact of some tool on the art it serves may be so as to modify profoundly the prac- of the art. That is particularly true he art of war. For its technology es fast and as new weapons are ed, many of them are bound to leave mark on strategical and tactical niques.

he new Boeing B-29—the Super- ress that recently made its official t over Japan (page 16)—is a case very ch in point. It was in the winter of s that Boeing first went to work on e major changes in the design of the Flying Fortress to meet new and e exacting Army specifications. I my first glimpse of the B-29, still much under wraps, in the summer '42. It was then evident that the ship would open up new prospects erial warfare. A more recent and e thorough inspection, both on the nd and in the air, confirms that mise.

lere is a plane that is half again as e as the famous Flying Fortress. gross weight is possibly twice as t and its speed compares favorably h that of the newest and fastest of pursuit and fighter planes. Its four tors each can generate 2,200 horse- er for take-off. It commands nearly e the power of the Flying Fortress. armament gives it unprecedented ting power.

Exact figures on the speed, range, alti- e, and bomb-carrying performances the B-29 cannot yet be published. t we do know that they all exceed tly the performance of any existing nber. It may be said that the ship carry the heaviest load faster, far- r, and higher than any other existing plane.

* * *

But all this is merely to compare a tool lf with other tools. It is when we con- r its use that we begin to under- nd why the Superfortress is more n a new airplane. It is, in effect, the trument of new strategical tech- ues. It is the essential tool of a ly global strategy.

For the B-29's are directed by a new bal command—the Twentieth Air rce. This is a world-ranging com- nd, which reports directly to the joint iefs of Staff of the Allied armies. ey are not to do their big job on ssions limited by the scope of a single eater commander. Theirs will be stra- gic missions of worldwide significance. For their long range makes it possible for units based in different theaters to synchronize attack upon a common objective. The B-29 thus makes possible a worldwide air force operating under a worldwide unified command.

It is quite possible that, despite all the talk about this being a global war and despite the coordination that has been effected through the Allied Chiefs of Staff, the Twentieth Air Force is, in fact, the first actual worldwide command reporting to a worldwide commander for the planning and execution of missions anywhere on the face of the globe.

* * *

Naturally, the power and range of these ships—which may well mark the peak of aircraft development that can make itself felt during this war—suggest that they will find their big job in the Pacific theater. This does not mean that they were designed exclusively or even chiefly for use there, but it does mean that they are especially well adapted to Pacific conditions. In Europe, our air attack has had an excellent advanced base in Britain. But in the Pacific, we must count upon the long range and carrying power of our planes to make up for the lack of close-in bases.

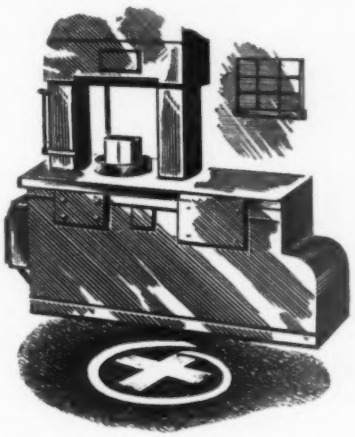
This development of a worldwide strategic command to handle these new ships as weapons of war points up sharply the new concept of world communication that will prevail after the war. Ships even larger than the B-29 now are in preparation. Some of them have been built and flown for cargo transport. They indicate the type of ship that may be expected to ply the international airways of the next century. Just as the B-29's have concentrated the battlefields of the world into one global field within the scope of a single commander and his staff, so will the postwar transport planes gather the nations of the world into a single marketplace that is bound to be taken into account by those who think in realistic terms of the political and economic world of the future.

* * *

It has been easy to make phrases about the effect of air navigation in shrinking the globe. But now, as the Superfortress takes its place in the arsenal of war, we have, for the first time, a material token of that shrinking process: a single, worldwide strategic command to make effective use of a world-ranging air weapon. W.C.

Missing from Action!

Molder Dan Johnson. Last seen working in Shop D. Unprotected hands were cause of painful injury. Will recover. Expected back in two weeks.



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THE TREND

BOTTLENECK TO FULL EMPLOYMENT?

Have we enough steel for full employment? A simple reading of the chart on page 98 would answer, No! For, full employment in 1947, say, would mean a 140-billion-dollar national income (at 1942 prices); and past relationships between national income and steel production would seem to indicate an output of 120 million tons of steel ingots at that level, whereas our capacity is but 96 million tons now, and production currently totals but 90 million.

Obviously, nothing would be more absurd than to frame postwar plans around mechanical projections of the past—unless it were to reject out of hand the vital questions which such projections do inevitably raise.

• **One pertinent question** is: How have we achieved our present national income of more than 150 billions with a steel capacity of only 96 million tons, and what has the answer to tell us about our postwar problems?

Just looking at the figures on steel won't tell us whether its war use is unusually high or low; for the fact that civilian consumption has had to be cut is balanced by another fact—that war is a voracious consumer of metal. Rather, we must approach the question by trying to see how the national income got so high, which, in this connection, means how we happen to be paying for manpower at a greater rate per ton of the metal than we did in peacetime.

For one thing, there is the pay of millions of servicemen, which is not a normal charge on our economy. But, besides that, we are now paying as much civilian income as we would in that 1947 full-employment year, but to far fewer persons.

This is easily explainable. First, overtime boosts average earnings. More important, we spend many more man-hours in fabricating a ton of war goods than a ton of peace goods, and we pay more per man-hour in war industries than in peacetime lines. Many of those extra man-hours arise out of relative inefficiency in making war goods. The rest grow out of the complexity of the specifications for such goods.

• **Let's examine this situation** for its application to postwar thinking. Normally, premium pay for man-hours bespeaks a higher level of skill, or efficiency. Presumably, the postwar free market economy would not pay such a double premium in more man-hours per ton, and more pay per man-hour (BW—Mar.25'44,p120).

We can exercise a choice in the number of man-hours we spend in servicing or fabricating a ton of metal—in selling refrigerators as against making them, in producing a ton of lathes as against a ton of rail, in turning out limousines as against jalopies. But the choice depends on the kind of economy we have.

What activities an economy involves develops fro what it needs, what it can pay, and what it can be make. If people needed only new homes (which u little steel) and no new autos at all (which use a goo deal), we might have high employment and yet low ste output. Or if income were redistributed, the food an clothing use of the "lower third" could jump at th expense of business' building of steel-frame plants. Or light but complex aircraft could suddenly be made to f much more cheaply, we might abandon steel trucks.

• **However, comparison of steel use** and national incom over 25 years seems to show that the economy ha worked so as to relate the two closely—implying tha overnight revolutions in need, buying power, or produ tion "know-how" which might widely divorce them an unlikely, except in the course of wars.

To be sure, the steel-income relationship could be, i part, accidental—concealing divergences which can gro large at the high range of peacetime full employmen But we may note that steel use is almost as close related to total industrial production as it is to income a correlation which also indicates that we have inadequat steel capacity for full employment, though the deficienc shown is somewhat smaller.

For any realistic look ahead on this problem of ste and full employment, we nonetheless should know jus which industries are likely to use how much steel. Fo that, we should have, first, a breakdown of steel use i the past 25 years. Such information is sadly lacking, an you can get as many estimates of past use—for railroa maintenance, for new machinery, for trucks, for expor etc.—as there are estimators. But the estimators—ste men, economists, and statisticians—agree in finding i difficult to show just how a full employment econom would use more steel than we can now make.

However, if we want to plan for full employment, w must explain at least one of two points: (1) just ho our economy may change so as to divorce the tradition steel-income relationship, and (2) in just which industri steel use is apt to expand beyond existing steel capacity

• **For in the end we cannot escape** the question: Do w have the steel capacity for full employment? Actuall that kind of question applies to our industrial capacity i the aggregate, not just to steel—though that point woul take more discussion. On the surface, the genera inference is that industrial capacity will stand as a impassable bottleneck to the attainment of full emplo ment shortly after the peace. That surprising conclusio certainly requires pondering.

The Editors of Business Wee

Somehow the talk got around to Manhattans

THERE were the cherries—big, red, luscious ones, too. And the rose bed was handy.

Putting two and two together, it was the most natural thing in the world to think of Manhattans made with Four Roses.

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Just what *they* did, we imagine. For, after you've once sipped a gloriously flavorful Four Roses Manhattan, it's hard to recall that pleasant memory without wanting to renew it!

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Take one part sweet vermouth and two parts Four Roses Whiskey. Add dash of Bitters. Stir well with cracked ice (don't shake), strain, and serve with cherry.

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Four Roses is a blend of straight whiskies—90 proof. Frankfort Distillers Corporation, New York City.

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